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# ENSEÑANZAS TACTICAS DEL CONFLICTO DE LAS MALVINAS



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ESCUELA DE GUERRA NAVAL

TACTICA



THE FALKLAND ISLANDS

(Navy International MAY. 82)





# EDITORIAL



As this is being written the British Falkland Islands Task Force nears the 200-mile blockade zone Britain has declared around the Islands, expecting war.

The crisis has dominated events on both sides of the Atlantic, and its implications are considerable, and not, unnaturally, centre around the Royal Navy and Britain's maritime defence posture. The military side of the crisis, however, is not the only aspect which is of consequence. The political implications and ramifications are enormous.

It is the political aspect which must be examined first, for a nation's armed forces are a means through which the political will can be exercised and, when diplomacy fails, can be used as a back up. The Falkland crisis is a classic example of this process, and one, moreover, which could arise again in the future.

What then did happen? By all accounts, it seems as if all the signs of an impending crisis of some magnitude were noted. Sufficient information and intelligence from a wide variety of sources, of varying kinds, *was* available. Furthermore it appears as if this information was acted upon, and that some fairly accurate assessments and forecasts were made by the right quarters and passed to those responsible for decision making and policy. However, it seems that those in overall authority, for reasons best known to themselves, chose to ignore or reject the assessments they were given.

HMG was presented with a *fait accompli* from a power that had seized the political initiative and backed it up by force.

At this point those who have criticized British Defence Policy over the last 18 months to two years began to see their accusations vindicated.

Praise must, however, be given where praise is due. Having been caught out the Government and the Secretary of State for Defence acted with extreme promptitude. A powerful Task Force *was* assembled in an extremely short time. However certain disquieting aspects have become more evident about the Force's composition as it has sailed south.

First and foremost there is the politico-military aspect. Obviously the British Foreign Office (FO) *must* re-assess its priorities with respect to overseas British territory, dependents and their protection and security. To do this the FO and the MoD must work more closely together on the political front. Had such been done in the case of the Falklands and a frigate or two sent to the South Atlantic then the crisis might have been prevented. It is the friendly policeman on the beat who 'prevents' the crime. HMG *could* have had a policeman on the beat — one of the frigates from Exercise Spring Train had been designated to sail for the Indian Ocean and the Arabian Gulf just before the crisis broke.

That, however, is only one side of the military aspect. Other, far more disquieting aspects, now point up the folly of having embarked on such a massive cut-back in Britain's maritime capability. First and foremost is the

fact that the Fleet is now, to a very large extent, denuded of its capability to meet its NATO ASW commitment in the Eastern Atlantic. To exclude the thought of possibly having to engage in 'out of area' operations solely to enable certain defence cuts to be achieved, at the same time still believing that one can maintain NATO commitments in spite of those cuts must surely now be seen to be completely false reasoning. One cannot, and should not, ever assume that the unlikely or improbable will never happen, for, it can, and will!

Furthermore, the folly of only having two carriers capable of projecting air power far from a secure base, can be plainly seen. With the whole of Britain's naval air capability deployed in just two hulls in the Falklands what happens if one is severely damaged, what about attrition rates, what would HMG have done if one of the carriers was under refit and so on?

There are other gaps in our defences. The RN Task Force *has no* airborne anti-ship missile. The British Aerospace SEA EAGLE anti-ship missile — the contract for which was only very recently awarded, was very nearly axed as part of the defence cuts. Argentina has the French AM 39 EXOCET which could be deployed from her Super Etendard aircraft.

In Parliament the PM stated that Britain had 'An excellent Fleet, excellent equipment, superb soldiers'. Agreed, but with reservations. The background to equipping a modern fleet was very well covered in the article by Sir Philip Watson 'Pick your Ships — Choose Your Weapons' published in last month's issue.

Incidentally Sir Philip Watson has kindly pointed out that the caption to the photograph of HMS Londonderry accompanying his article was inaccurate for which we accept full responsibility. The caption should have read: 'The largest member of the Marconi family of Surveillance Radars undergoing sea trials in HMS Londonderry'. We apologise to Sir Philip Watson for any distress that this may have caused his company. However, we are interested to learn from him that the Ministry of Defence intends to purchase equipment to be used on the LIGHTWEIGHT SEAWOLF Programme. The Fleet heading for the Falklands, particularly the carriers, could well do with that equipment now to cover a gap in their air defence capability.

One paragraph in particular from Sir Philip's article is worth noting: 'Studies must be undertaken to work out the strategy and tactics required for defence against these enemy threats and to these must be added one's own plans to carry out operations necessary to counter-attack on order to secure and retain the strategic and tactical initiative'.

Bearing in mind that statement, and also that 'Armed forces are instruments of government policy...' then it must now be obvious to many people, that HMG and the political masters in the MoD have not heeded the advice and suggestions from their military counterparts — and have done so with the results now seen in the Falklands crisis!



# The Falkland Islands

*The news throughout April was dominated by the Argentine military take-over of the Falkland Islands. The following series of reports was prepared from material available at the time of going to press on April 13. Obviously the situation has continued to develop since that date and information in the following features may no longer represent a true picture of events since that date. Further, for obvious reasons certain details in the features, must to a certain extent be conjectural, and are in those case the personal views of the editor and contributors, and should not in any way be construed as official thinking, from either Argentinian or British sources. Facts have been checked as far as possible, but again, for obvious reasons certain information and details could not be verified. However, it is believed that as far as units participating and the chronology of events is concerned these were as accurate as could be ascertained at the time of going to press. NAVY international thanks all those who have responded in such a swift and helpful way in assisting with the compilation of these reports.*

## Background

Although the Falkland Islands were first sighted by a Dutchman in 1600 it was not until 1610 that a Captain John Strong first landed and claimed the islands for the English Lord Falkland.

A French colony was subsequently established at Port Louis in 1764 and handed over to Spain three years later. The British settlers were forced to leave the islands in 1770 when they were invaded by Spain, which almost led to war between Britain and Spain. Negotiations were pursued for some considerable time and the islands were eventually handed back to Britain.

British Sovereignty over the islands was again the subject of dispute in 1820 when Argentina laid claim to them. This was principally on the grounds that as she had taken over Spanish 18th Century claims in South America, then because of the Spanish claim to Port Louis of 1767 and subsequently of the mistaken Spanish claim of 1770 to the whole group of islands, then they considered the islands really belonged to Argentina. The Argentinian claim was refuted and the islands have remained in British hands to be satisfactorily governed, according to the wishes of the islanders themselves, since 1833.

After the Second World War the situation of the Falkland Islands as a non-self-governing territory was debated by a UN Committee on colonialism. In 1964 Falkland Islands' legally elected representatives informed the UN Committee of the Islander's wish to retain its then present status under the British Government. This was followed by the adoption of the present constitution on September 21, 1964. They had no wish to become independent or to be associated with any other country.

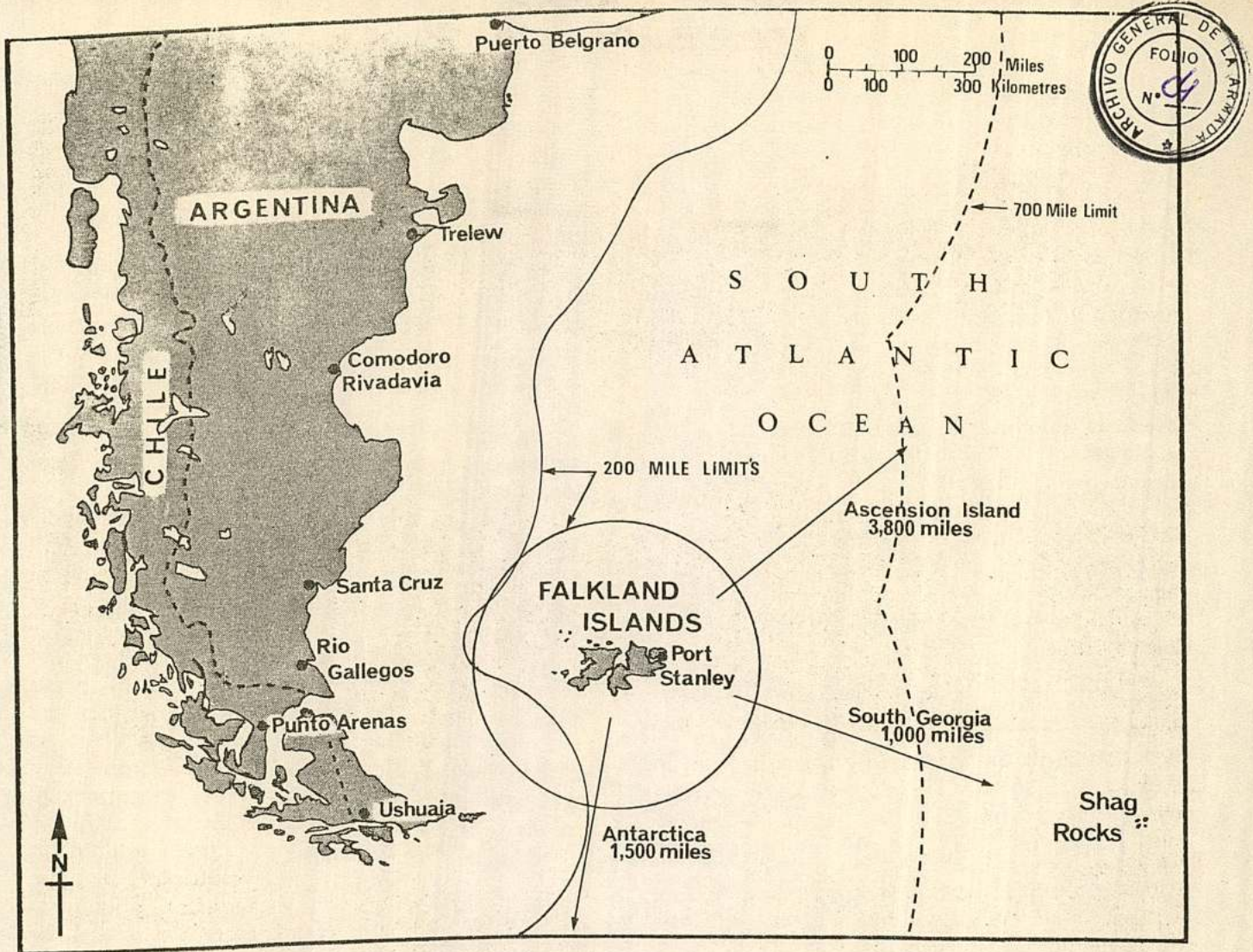
The UN adopted a resolution in 1964 which

recommended that the British and Argentinian Governments hold discussions with a view to peacefully resolving the dispute over the territory, bearing in mind the ordinary wishes of the islanders themselves.

This was followed in 1971 by discussions held in the Argentine capital of Buenos Aires which would open the way for a link between Argentina and the Falklands. The outcome of the discussions resulted in air and sea communications, postal services, educational and medical facilities being set up between the Falkland Islands and Argentina. This was followed by further discussions between HMG and the Argentine Republic held in 1972 and 1973. The problems have never been satisfactorily resolved and the situation deteriorated to such an extent that early in 1975, when Peron was President of the Republic, ambassadors were recalled and the British Labour Government secretly sent a small naval task force to the Falklands to forestall any Argentine attempt to take the islands by force. The situation eased and greater efforts were made to resolve the problems between Argentina and Britain, but with little success.

With the new Argentine President installed in office last December, one of the most pressing matters to be resolved was the question of the Sovereignty of the Falklands. Further meetings were held between HMG and the Argentine Republic, and to the British representatives it at first appeared that the talks with the new Presidents representatives might prove more fruitful than hitherto. However, on return to their home country it appears as if the Argentine representatives had miscalculated their own President's wishes and the situation radically altered leading to the present situation, the most serious in the Islands history since 1770.





Falkland Islands 1

## Political Considerations

There is no doubt that the Falkland Island crisis has been the greatest international crisis since the Suez crisis of 1956, greater even than the Yom Kippur 1973 war in the Middle East, although at the time of going to press fighting had not broken out on any scale, apart from the initial invasion.

How is it then that a dispute over two small islands and their 1,800-odd inhabitants has been allowed to escalate to a pitch where the whole of the South Atlantic region is in danger of becoming a battleground, with the consequent dangers to merchant shipping and which, if allowed to get out of hand, could lead to a general conflagration? The complete inside story will probably never be told, and certainly not for many years to come, by which time most of the major personalities will have long been dead.

This feature, however, is not intended to be a critical examination of the situation as it has developed but merely a resume of events and statements up to the time of going to press. It is far too early for any reasoned assessment to be made of the events, although there are certain questions

which must be posed, and which will, at some time in the fairly near future, have to be answered to the satisfaction of at least the Committee of Enquiry, which the British Government has said will be set up to investigate the affair. What then has been the political train of events?

Apart from the long standing dispute between Argentina and the United Kingdom over the Falklands (see previous page) the start of the present crisis began with a bizarre event on the South Georgia islands. The incident began when a party of about 60 Argentinians contracted to dismantle a disused whaling station to extract scrap metal for a Scottish Company was landed at Leith Harbour, South Georgia on March 19. It appears that the Argentine party from a cargo ship *Bahia Buen Suceso* (3,100-tons) chartered by the Argentine Navy was landed without fully observing immigration regulations. Following a protest 50 of the Argentinians were taken off the island, but 10 remained behind (possibly naval ratings in disguise) and the Argentine flag was hoisted.

As the Argentines refused to leave the island, the Royal



Navy ice patrol ship HMS *Endurance* with a small detachment of marines on board was sent to South Georgia to evict the Argentinians.

The landing and raising of the Argentine flag was viewed by the British Government as a serious infringement of British sovereignty over the Falkland Islands and their dependancies.

The incident was viewed in Britain as a deliberate provocation to increase tension and force a showdown following a deterioration in discussions over the question of sovereignty and future of the islands. At these talks, held in New York on February 27, the Argentine Government informed the British that unless a solution to the problem of the Falklands was reached quickly, then Argentina would break off negotiations with London and seek other means of solving the dispute.

Meanwhile, in the Argentine capital Buenos Aires, the Argentine Foreign Minister, Mr Nicanor Costa Mendez claimed to the British Ambassador Mr Anthony Williams that Argentina had 'unquestionable sovereignty' over the Falkland Islands.

From this point on relations between Britain and Argentina began to deteriorate.

A week after the talks in New York an Argentine Air Force C130 Hercules landed totally unexpectedly on the air strip at Port Stanley. The pilot claimed he was on his way to a base in Antarctica when the aircraft suffered technical problems. They spent two hours on the Falklands and then left. It was subsequently said in Buenos Aires that this was a 'dry run' to test the practicability of landing transports on the islands.

As the *Endurance* headed towards South Georgia to evict the Argentinians, an Argentine naval force comprising the Argentine Navy transport *Bahia Paraíso* accompanied, so it was reported at the time, by the French built frigates *Granville* and *Drummond*, was reported to be heading for South Georgia, with a detachment of troops. It appears that as the Argentine flag had been hoisted in South Georgia, the Argentine Government was determined it should continue to fly and that a military force would ensure that it did so. It may well be that this was the Argentine intention and that British reports that the only British naval presence in the area, HMS *Endurance*, was to be withdrawn under the present defence cuts to save £2 million, prompted the action. If such was the case then obviously the Argentine move was slightly premature because *Endurance* was not due to leave the area until May. What might have been a completely successful *fait accompli* with no possible redress by the United Kingdom, was, to some extent thwarted (but only just in time) but which subsequently led to a far more dangerous situation with the invasion of the Falklands themselves and the very real possibility of war breaking out between the two countries.

The difficulties of providing adequate protection and support for British Sovereign territory without an adequate naval presence, was not lost upon the British Labour Party. In the House of Commons the former Prime Minister, Mr Callaghan, noted that the British Foreign Office had already been warned that once news of

the withdrawal of HMS *Endurance* became known, Argentina might try to force such a solution to the Falkland Island question. Referring to the withdrawal of *Endurance* Mr Callaghan questioned 'Is it not a gross dereliction of duty on the part of the Government to persist in this course?'

On March 28 the British Ambassador to Argentina had further talks with Argentine Foreign Ministry officials in an effort to defuse the situation and have the Argentine scrap metal workers removed from South Georgia. The Argentinians, however, were not prepared to give up so easily.

The situation, however, deteriorated suddenly and late on March 28 five Argentine vessels were reported to be in the vicinity of the Falklands.

It was at this stage in the sequence of events that the British Foreign Secretary, said he was first given information that something major might happen in the Falklands, and that Argentina might be preparing to invade the islands.

The situation rapidly developed into a major political crisis which placed the whole credibility of British power at stake. An Argentine invasion of the Falklands appeared imminent, and the only British presence in the area, apart from the 40 Marines on the Falkland Islands, and a small detachment on South Georgia, was the ice patrol ship *Endurance*, armed with only light 20mm guns.

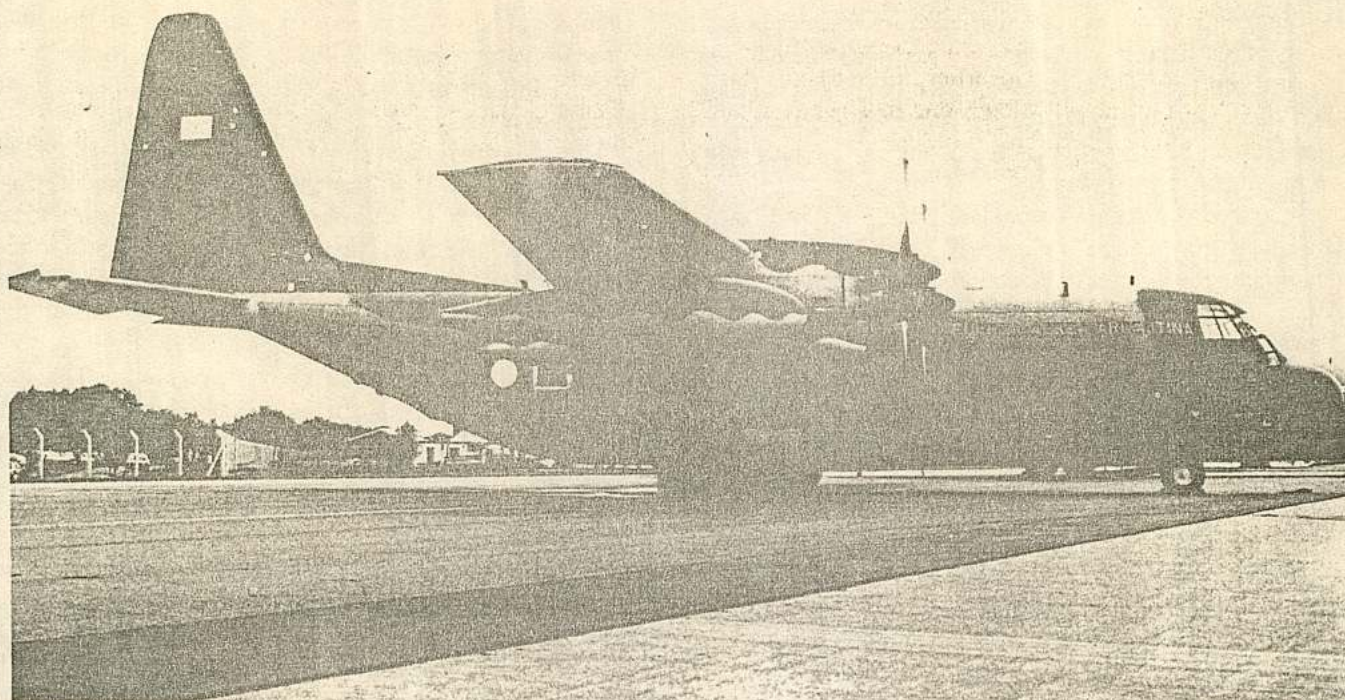
Apart from the warning signs — mainly political but with some para-military involvement, already noted above, the Argentine newspaper *La Prensa* had earlier in March published a full length feature forecasting the invasion. To be fair to HMG such articles had appeared in *La Prensa* before, and nothing had happened, but coupled with all the other warning signs, there was considerable feeling throughout Britain that the Foreign Office had made a faulty appreciation of the situation by misreading the signs in and around the Falklands and from elsewhere.

With secret diplomacy between Britain and Argentina failing to succeed, the scrap merchants on South Georgia and an incident at Port Stanley where a few Falklanders briefly occupied the offices of the Argentine military airline in Port Stanley (the airline maintained the only regular air service between the islands and the mainland) faded into insignificance, as it became apparent that the real problem was the question of sovereignty of the islands.

On March 30 both the British Foreign Secretary, Lord Carrington (who had cut short a visit to Israel to return home to deal with the situation) and the Minister of State at the Foreign Office, Mr Luce, during statements to both Houses of Parliament implied that if diplomacy failed then HMG would be prepared to use force to remove the Argentine threat to British sovereignty of the Falklands, but every diplomatic move possible would be made to seek a peaceful solution. During his statement Lord Carrington stated that the crisis had deteriorated into a 'potentially dangerous' situation and which had led to a review of British commitments in the South Atlantic.

Across the Atlantic in Buenos Aires the Argentine Foreign Minister was making equally uncompromising





A C130 Hercules of the Argentine Air Force similar to the aircraft which made an unscheduled landing at Port Stanley early in March.

statements to the effect that Argentina would protect its workers on South Georgia and would not be intimidated by the British.

Diplomatic discussions between Argentina and Britain continued but as it became clear that they were having little success the small detachment of Royal Marines based on the Falklands (Naval Party 8901 of 79 men) was put on an increased state of readiness.

In New York on April 1 the British Delegation to the UN, asked for an immediate meeting of the Security Council to discuss the Falkland crisis while the British Ambassador to the UN, Sir Anthony Parsons, noted that an Argentine naval force was heading for the Falklands and told a Press Conference: *'My Government has received information which leads them to believe that an armed attack on the Falkland Islands themselves may be imminent quite separately from the question of South Georgia'*.

Having been alerted to the gravity of the situation on March 29 the British Government had already drawn up plans to prepare a RN Task Force to be sent to the South Atlantic and had already detached two RFAs used to support the carrier HMS *Invincible*.

Finally on April 2 at 0800 local time, in a massive combined air and sea operation an estimated force of 5,000 Argentinian troops landed on the largely undefended (except for the small detachment of 81 Royal Marines) Falkland Islands and captured them three hours later.

Confusion reigned in London and it was several hours before Lord Carrington eventually announced officially at

1800 on April 2, that Argentina had invaded and captured the Falklands in spite of numerous reports from Argentina that they had invaded the islands. Although April 3 was a Saturday, the British Prime Minister immediately called Parliament into session for an emergency debate, the first time the House of Commons had sat on a Saturday since the Suez Crisis on November 3, 1956, an indication of the gravity with which Britain regarded the situation.

A political crisis of major import had befallen the British Government, which was already under pressure from a number of back-benchers over the current round of defence cuts. The implications were obvious, at the very moment the RN was undergoing a severe pruning an almost undeterred invasion and subsequent capture of British sovereign territory had taken place in an area thousands of miles away from the nearest possible British naval task force. All this with a Government which came to power with a clear commitment to strengthen the nations defence policy.

At a Press Conference on April 2 to announce the invasion the British Defence Secretary Mr John Nott explained the British reluctance to act earlier in the week when the Argentine naval exercises were first detected as *'...deliberately avoided as an obvious military response so as to avoid precipitating the very incident which we were seeking to avoid by diplomatic means'*.

He went on to state that it was not until the evening of April 1 that *'clear evidence became available'* that Argentina was preparing to assault the Falklands. As soon as Argentina's intentions became clear the RN was as Mr



Nott said 'straight away put on immediate notice for operations and a substantial task force...prepared!'

With the invasion an acknowledged fact Britain broke off diplomatic relations with Argentina, and at once began to assemble a large naval task force. The 81 Marines captured on the Falklands, over which the Argentine flag then flew, together with the Governor of the islands, Sir Rex Hunt, were eventually flown out to Uruguay and eventually back to England.

Once the invasion of the Falklands had been confirmed Britain at once called on the UN Security Council to denounce the Argentine action and Britain's UN Ambassador called the action a 'blatant violation of the United Nations Charter and of international law'...

Following the emergency debate in the House of Commons on April 3, the Labour, Liberal and Social Democrats stood firm behind the Prime Minister's resolve to settle the question of the Argentine invasion to the satisfaction of the British and restore British sovereignty to the Falklands. However, some politicians were considerably upset by the ease with which Argentina had been able to occupy the islands and considered that the Foreign Office had considerably mismanaged the whole affair.

At a joint defence and foreign affairs back-bench Tory meeting after the debate Lord Carrington and John Nott were harshly questioned as to their actions in the affair and several MPs called for their resignation.

At the United Nations Security Council the British resolution demanding an immediate withdrawal of all Argentine forces from the Falklands was passed by an overwhelming majority of 10 to 1, only Argentina voting against. Spain, Poland, China and the USSR all abstained from voting.

With so much criticism being levelled at the British Foreign Office over its handling of the affair, and with the effects of Saturday's debate and events in the Falklands it was not surprising that on Monday April 4 resignations were offered and reluctantly accepted by the British Prime Minister. The saddest blow of all was the determined resignation of Lord Carrington, who up until the Falklands crisis had been very highly regarded as a diplomatist, especially over his handling of the Rhodesian independence. Along with Lord Carrington, who was

replaced by Sir Francis Pym, Leader of the House and one time Defence Secretary before John Nott, who was transferred because of his views on defence policy which seemed publicly to run counter to those of the PM, two other senior government officials resigned — Mr Richard Luce, Minister of State at the Foreign Office and Mr Humphrey Atkins, Lord Privy Seal.

The Defence Secretary, Mr John Nott, also offered to resign, but this Mrs Thatcher would not accept, and rightly so, for it was absolutely essential at that critical moment, as the RN was just about to sail and considerable efforts were underway assembling other forces, that there should be political continuity in the leadership at the Ministry of Defence. That is not to say, however, that when the crisis is eventually resolved, Mr Nott will have to give some very detailed explanations as to his conduct with Britain's Defence Policy prior to the Argentine invasion of the Falklands.

April 5 was a momentous day in British history, certainly the most important for the RN since the fleet sailed for Suez in 1956. At 1015 hours a major part of the British naval task force, the *Hermes* (flagship) and *Invincible*, packed to capacity with Sea King ASW helicopters and Sea Harrier VSTOL fighters sailed from Portsmouth as the spearhead of the British naval task force bound for the Falklands. While the ships had been preparing to sail the Admiralty were drawing up plans to requisition a number of merchant ships and rapidly fit them out as auxiliaries and support ships, ready to sustain a sizeable task force thousands of miles from a secure base and to put ashore a large force of combat troops.

British hopes of a diplomatic settlement were not high and in Lord Carrington's view it was a question of combining force with diplomacy. There were three options apparently open to the RN:

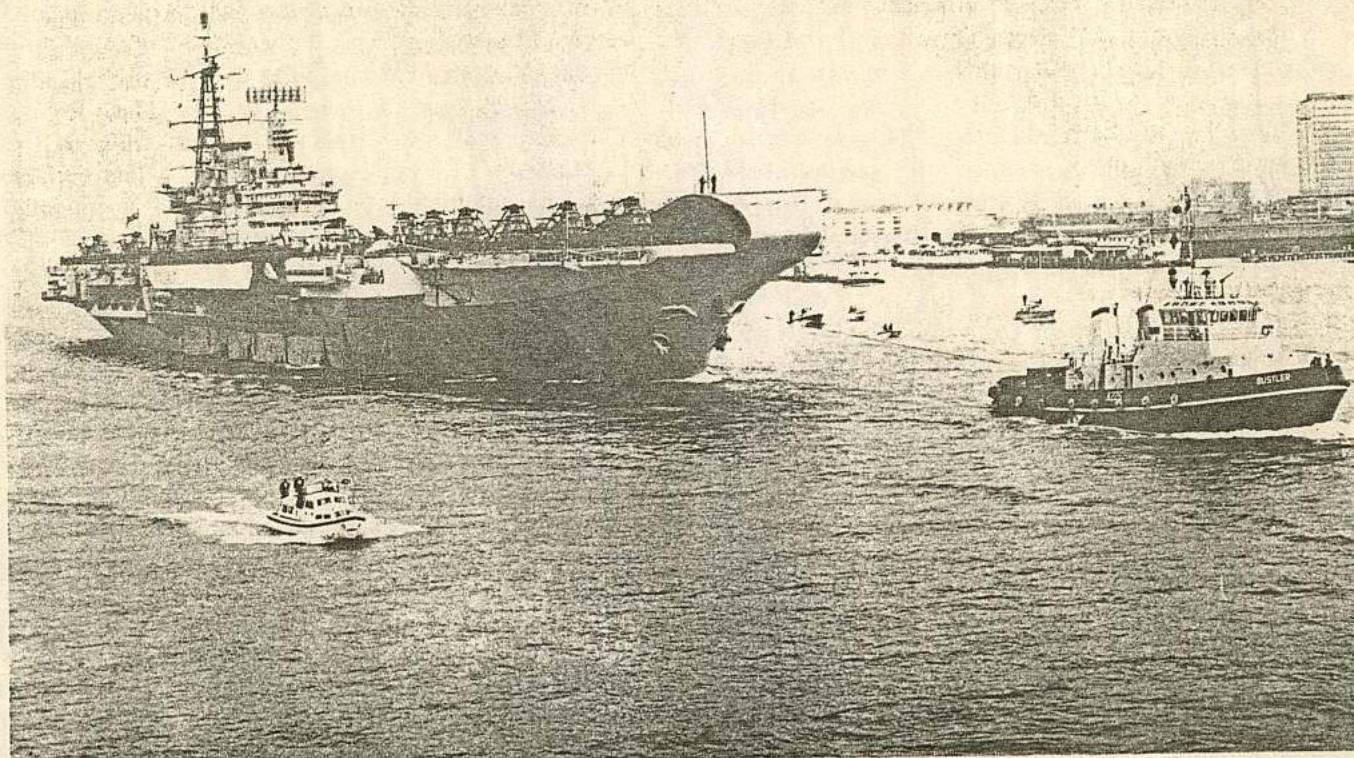
1. A blockade of the Falklands
2. To sink some Argentine ships to show the British meant business
3. To land a counter-invasion force on the Falklands.

All three were, in view of the Argentine strength and determination and distance of the British Task Force from a secure base, very hazardous. Another alternative noted early in the week of April 5, was to take South Georgia, the place where it all began, for an advanced base from which

*The British Task Force on its way to the Falklands in the vicinity of Ascension Island. From front to rear can be seen a 'County'-class DLG, HMS Broadsword, an 'A'-class frigate and one of the 'Rothesay'-class frigates.*







*HMS Hermes leaves Portsmouth on April 5, her decks crowded with Sea King helicopters and Sea Harrier VSTOL aircraft. Below decks her passageways were crammed with RM Commandos and their kit.*

to launch an operation against the Falklands. As the situation developed it appeared that this, together with the enforcement of a naval blockade, appeared to be the most sensible course of action for the British to take, if they were to try and wrest the islands back from Argentina with the minimum amount of loss to both sides.

Gradually during the week of April 5, it became apparent that a show of force was not going to cause Argentina to voluntarily withdraw from the islands. That would cause too much loss of face, probably bring about the fall of the three-man military junta which ruled Argentina and might even lead to the death of the Argentine President, General Galtieri. Argentina is ultra-nationalistic, certainly where the Falklands are concerned, and was obviously unwilling to compromise — hence the breakdown previously in the diplomatic negotiations prior to the invasion. The Argentine view of her action was that she was merely engaged on an operation to regain what she considered to be national territory and that, therefore, her action was not an invasion.

With the situation clearly deteriorating and with a possible escalation to war, President Reagan of the United States, following a meeting with his Defence and Intelligence Advisers decided to intervene and sent Secretary of State, Haig, to London for talks with Prime Minister Thatcher to offer American assistance and to

seek a solution in accordance with the British sponsored UN resolution No 502, which called for the withdrawal of Argentine troops from the Falklands. The US has, in fact, been placed in a very difficult situation, for she is friends with both the countries in dispute and her attitude was crucial if she was in any way to succeed in her role of 'honest broker and mediator'. While emphasis was on diplomatic moves, both Argentina and the UK continued with military preparations, the UK requisitioning more merchant ships and preparing further naval vessels for the Task Force.

On the Falklands themselves Argentine troops and reinforcements continued to pour in, A/A guns and heavy bridging equipment arriving hourly, the islands being turned into a mighty armed camp.

The real stumbling block to the diplomatic efforts to resolve the crisis was the question of sovereignty and the determination of the British Government that a solution to the crisis must involve meeting the wishes of the islanders themselves. In fact as far as Britain was concerned there could not be any direct talks concerning the future of the Falklands until Argentina withdrew her troops from the islands.

All that Argentina seemed prepared to accept was a situation settling the terms of compensation to the islanders, and as if to emphasize that she now had no intention of giving up her control of the islands an



Argentine governor of the Falklands was sworn in on April 8.

In further diplomatic moves aimed at trying to force Argentina to withdraw her troops from the Falklands, Britain approached the other nine member states of the EEC for support. Meeting on April 7, the EEC discussed the question of economic sanctions against Argentina. One immediate outcome of the meeting was an immediate embargo on arms deliveries to Argentina by France, Belgium, Germany and Holland. This was a considerable blow to Argentina, particularly the Navy as three MEKO frigates were in an advanced stage of fitting out in Germany and would have been delivered later this year, while work on a fourth MEKO frigate was due to commence shortly. In addition two submarines were under construction in Germany and Argentina was to build a further six MEKO corvettes and four submarines herself, with equipment supplied from Europe. Subsequently the EEC voted to place a complete embargo on all Argentine imports.

Although it will be a little while before these economic sanctions begin (they were imposed on April 16) to have any real effect they nevertheless place Argentina, which already suffers from raging inflation and a difficult economic situation (in spite of considerable offshore oil reserves), in an extremely difficult position. Already this year Argentina needs to borrow some £2,000 million and so far only about a third of these loans have been arranged. Argentine exports to the EEC amount to some £800 million, a quarter of Argentina's exports, and the EEC ban on the imports will have a disastrous effect on the Argentine economy. On Thursday April 8, the British Prime Minister, in an effort to back up diplomacy with force, to show Argentina that the UK really meant what it said, announced that as from 0500 London time (0100 Argentine time) on Monday April 12, the RN would commence a naval blockade in a 200-mile zone around the Falkland Islands. Any Argentine ship found in the zone by British naval forces would be sunk without warning. As the RN Task Force was still in the North Atlantic the blockade would have to be imposed by two nuclear-powered submarines — HMS *Superb* and *Spartan*.

In retaliation to the British announcement of the blockade Argentina announced a 200-mile zone around the Falklands, South Georgia and along the Argentine coast. Plans were drawn up to call up 100,000 Reservists, preparations were made in the hospitals to receive war wounded and certain naval ports were blacked out. One such major naval base was Comodoro Rivadavia, a strategic base with a vast natural harbour and with Argentina's largest oilfield close by.

It was apparent that a settlement of the crisis was not going to be easy without one side losing face. It was going to be very difficult for a mediated settlement to succeed and the United States, acting as mediator and being friendly with both countries, has a great deal to lose if the situation gets out of hand.

Britain was not prepared to compromise on the issue of Argentine withdrawal from the Falklands and the new British Foreign Secretary, Mr Pym, stated on April 7 that 'Britain does not appease dictators'. Nevertheless Mr Pym

did say that 'We would much prefer a peaceful settlement and we will do all in our power to achieve that'. However Britain was prepared to fight if necessary and on his arrival in the UK, US Secretary Alexander Haig was fully informed of the British attitude and the intention to enforce a blockade unless Argentina withdrew her troops from the Falklands. Mr Haig was left in no doubt as to Britain's intentions and he found Mrs Thatcher in an uncompromising mood.

Firmly believing she was in the right, Argentina, at a meeting of the 30-member Organization of American States (OAS) on April 8, called on the other Latin American States to support her action. The meeting adjourned without having reached any decision and in some disarray with many of the countries' intentions remaining neutral. Only Peru and Bolivia subsequently offered to assist Argentina in a practical way.

On April 9 Secretary Haig left London for Buenos Aires 'impressed by the firm determination of the British Government'. In Argentina Secretary Haig's visit was welcomed, but he was again left in no doubt as to Argentina's feelings and intentions regarding the Malvinas (Falklands) and that as far as Argentina was concerned they were on the islands to stay and they were Argentine sovereign territory.

There was some softening in attitude and an easing of diplomatic tension over the Easter weekend as Argentina withdrew all her naval vessels from the 200-mile zone around the Falklands to Argentine ports before the RN started its blockade on Easter Monday.

President Galtieri urged Britain to use restraint, and offered to withdraw her troops if Britain would lift her blockade. However, although it appeared that most Argentinians would prefer a peaceful settlement to the crisis, their uncompromising attitude over the sovereignty issue made this almost impossible.

Secretary Haig returned to Britain for further talks, but in a statement on April 12, the day the RN blockade of the Falklands commenced, stated that 'a number of substantial difficulties remain'. In fact the one real sticking point in the whole crisis and its resolution was the question of the Sovereignty of the Falklands. It appeared that a proposal Secretary Haig made for a tri-partite conference between Argentina, the UK and the United States was rejected by Argentina.

Having failed to achieve a major success as a result of his visits to the UK and Argentina, Secretary Haig flew to Washington on April 13 to brief President Reagan on what had happened so far and to have further discussions on the next steps to be taken in the crisis.

Amidst growing alarm in Argentina at the inevitability of a war with all Argentine warships storing and arming for 20 days at sea, all reservists called up and all Argentine forces at combat readiness, and a growing realisation in Britain that the RN Task Force would probably have to fight, Secretary Haig embarked on a crucial further visit to Buenos Aires in a final attempt to break the deadlock and avert a war between Argentina and the United Kingdom over the Falklands.

This was the situation on April 15 as we went to Press with this feature.



## Military Operations

Following the 'furore' over the small party of Argentinians on South Georgia who refused to leave the island aboard the Argentine Navy transport ARA *Bahia Buen Suceso*, 3,100 tons, when requested to do so by the British Government, the two countries in dispute sent naval vessels to the area. The RN sent HMS *Endurance* with a small party of Marines on board and the Argentines the *Bahia Paraiso*, a 9,600 transport chartered by the Navy and carrying an unspecified number of troops which was already in the area and accompanied, so reports from Buenos Aires stated, by the French built EXOCET armed frigates 1,170-ton *Granville* and *Drummond*.

As the situation deteriorated on March 29 it was reported that Argentina had cancelled naval leave and was sending several warships into Falkland waters. In a statement to the House of Lords on March 30, Lord Carrington stated that HMS *Endurance* would remain on station as long as necessary and a subsequent report late on March 30 noted that the RN was sending a RFA tanker to

*HMS Hermes leaving Portsmouth is the flagship of Rear Admiral 'Sandy' J F Woodward, Flag Officer First Flotilla. Admiral Woodward is a submarine specialist whose last appointment was Director of Naval Plans.*

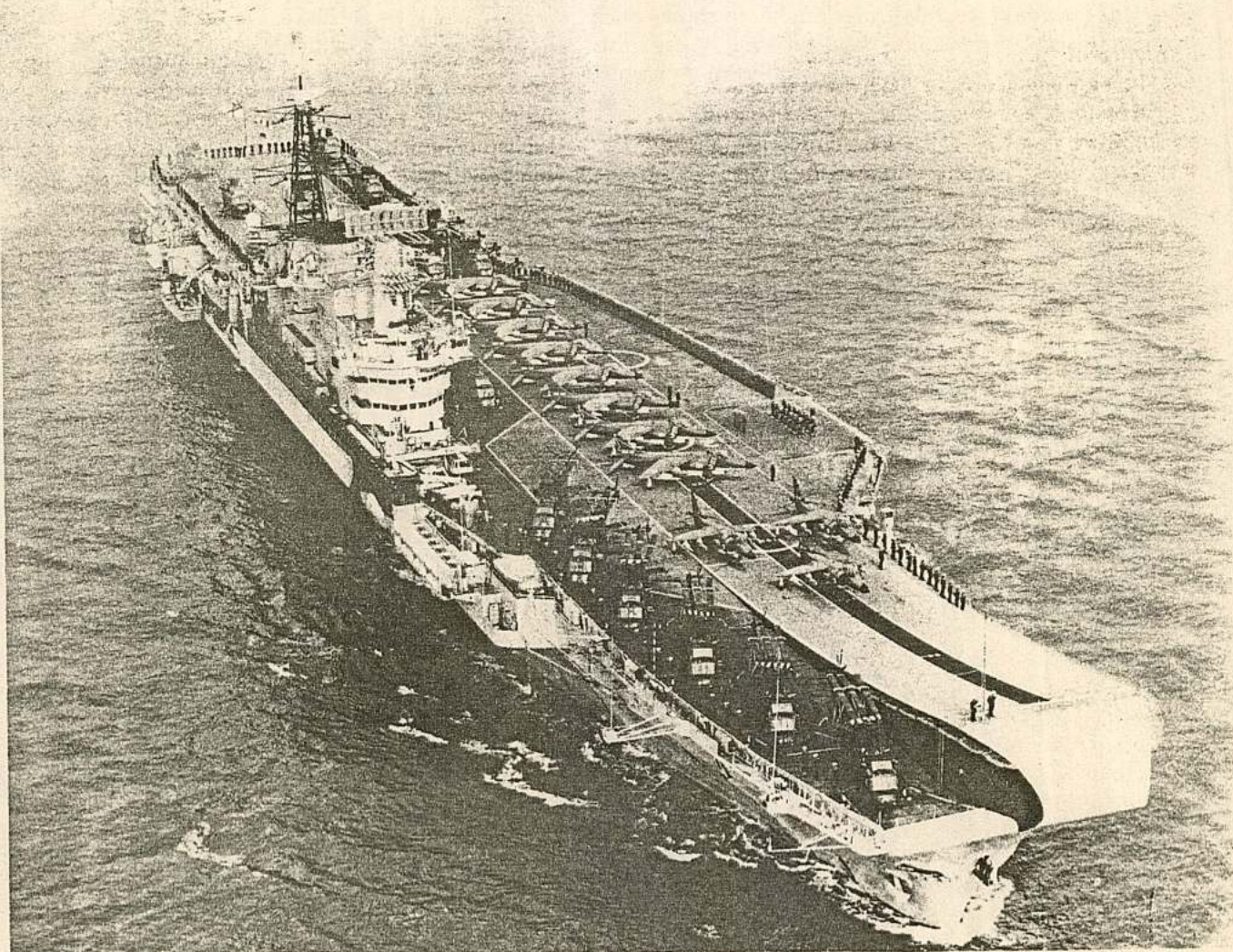
the Falklands area, a possible indication that Britain intended sending a naval Task Force into the South Atlantic.

A further report from Argentina noted that the Type 42 destroyer *Santissima Trinidad* (which only recently completed SEA DART firing trials at the MoD firing range at Aberporth) and her sister ship *Hercules* had left the major base at Puerto Belgrano and were heading south.

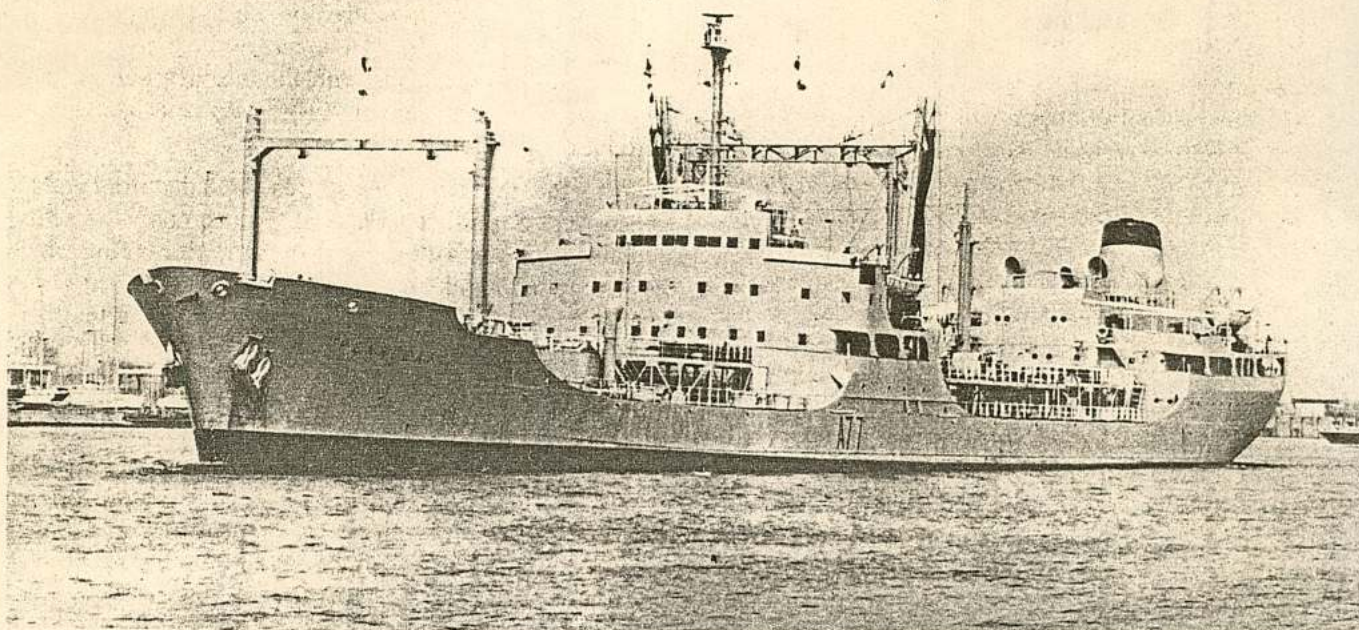
As a counter to the Argentine presence in the area of the Falklands a RN task group of about three frigates and destroyers was made ready to sail for the South Atlantic.

On April 1, Naval Party 8901, the detachment of 79 Royal Marines based on the Falklands was put on an increased state of readiness as the diplomatic situation deteriorated and the Falkland Islanders became more worried about a forcible take-over of the islands by the Argentinians.

Then on April 1 the British Ambassador to the UN in







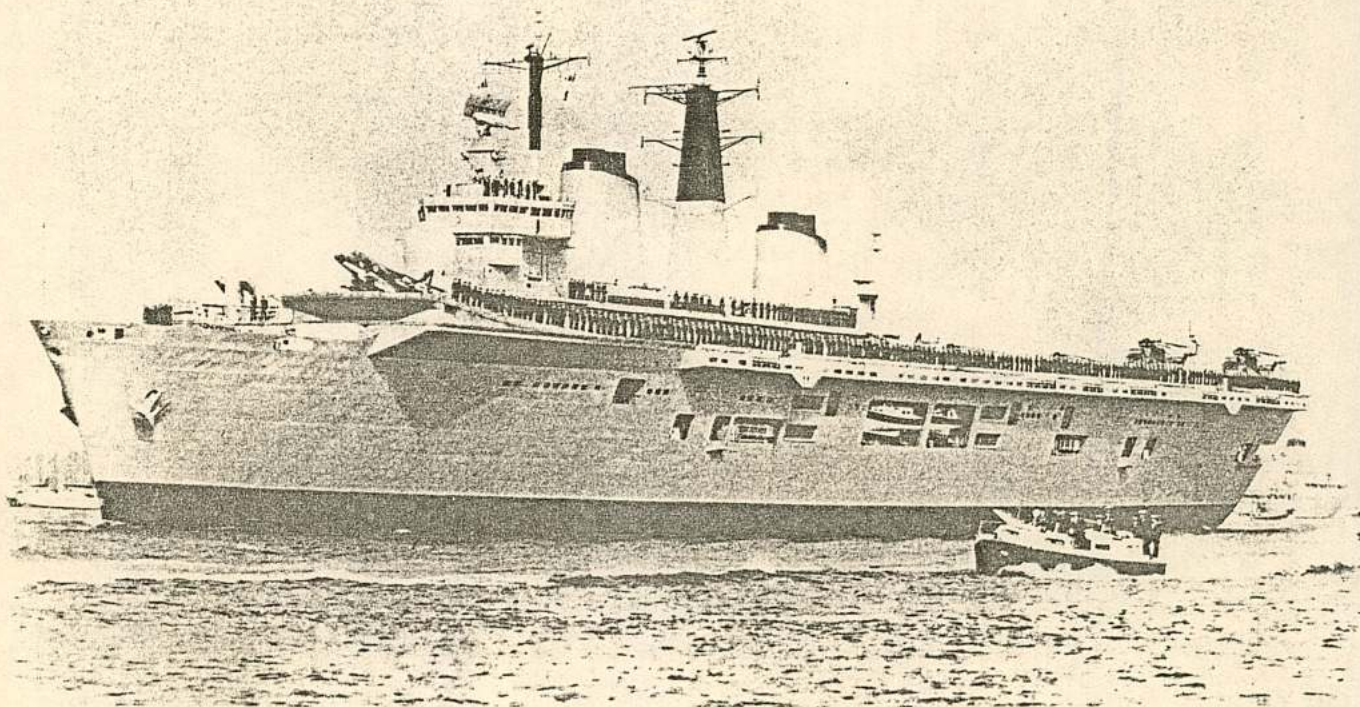
*The RFA oiler Pearlleaf leaving Portsmouth on April 5.*

New York said that an Argentine naval force including the carrier *25 de Mayo*, four destroyers and four landing craft was steaming towards the Falklands and the British Government feared an invasion was imminent. With this knowledge plans were quickly drawn up by the British MoD to prepare a much larger Task Force than originally envisaged, a force comprising the carrier *Invincible* and about six other warships. This Task Force had already been assigned to undertake a voyage to the Indian Ocean

later this year. At 0600 on April 1, 1,800 Argentine commandos and Navy frogmen began seizing port installations in Port Stanley and other strategic points.

The first landings took place at Cape Pembroke Lighthouse where a party of Argentine frogmen slipped ashore from rubber assault craft and captured the lighthouse which protects the entrance to Stanley harbour and behind which lies the airstrip. After taking the lighthouse a force of some 300 troops was landed at the

*HMS Invincible leaving Portsmouth on April 5. On deck are three Sea Harriers of 801 Sqn and three of 899 Sqn together with four Sea King Mk5s of 820 Sqn. Will the Secretary of State for Defence still insist on selling Invincible after the Falkland crisis?*







*HMS Endurance, the RN Antarctic support ship due to have been withdrawn this month at a saving of £2 million. Perhaps now she will be retained.*

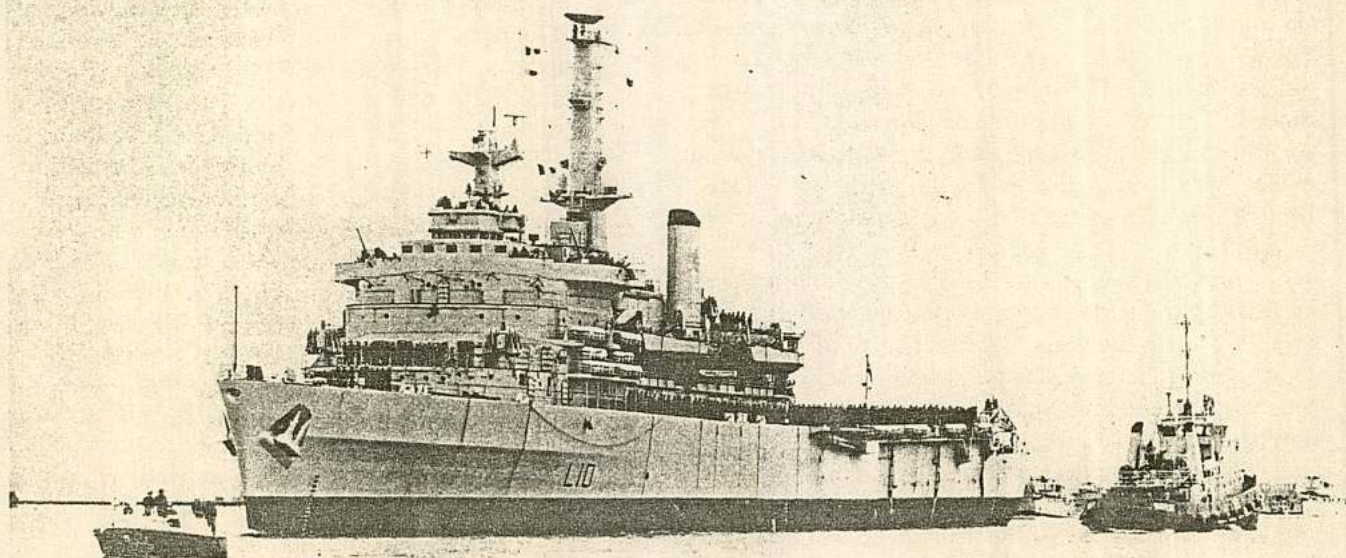
Cape from the LST *Cabo San Antonio* with the first objective the 4,000ft rough landing strip which formed the airport. After taking the airport, which had been blocked by vehicles parked across the landing strip, this force advanced seven miles along the coast to Stanley where they joined up with another force of 400 troops who carried out a seaborne invasion of the port from the *Cabo San Antonio*, together with armoured vehicles.

Further troops were ferried to Stanley from the Argentine carrier in eight Sea King helicopters. Considerable exchange of gunfire between the Marines

and Argentinians took place around the most heavily defended area at Government House. Here the Marines held out for three hours before the Governor ordered them to surrender at 0900 having expended a considerable amount of ammunition which led to the death of an Argentine Navy Captain, and seriously wounding two other Argentine troops.

Within 24 hours of the capture of the Falklands the Argentines had built up a force of about 4,000 troops, ferried across from the mainland in C 130 Hercules aircraft of the Argentine Air Force.

*HMS Fearless leaving Portsmouth on April 6. Fearless was to have been scrapped, but was reprieved after the Secretary of State for Defence had spent a day aboard the ship earlier this year!*







Captain Lyn Middleton, commanding officer of HMS Hermes, conversing with two helicopter crew as the carrier heads towards Ascension Island.

With the official announcement that the Falklands had been invaded and captured the British Government announced late on April 2 that it was assembling a large naval task force to send to the area. Men of the 3rd Battalion Parachute Regiment were ordered to return to their bases immediately and hurried preparations were made to get HMS *Invincible*, *Hermes* and *Fearless*, all at Portsmouth, ready for sea. In all a force of considerable size was to be formed into the Task Force from units which had recently completed Exercise Spring Train at Gibraltar, and units at Portsmouth and Plymouth. Throughout April 2 aircraft and stores were ferried aboard the two carriers at Portsmouth and leave for the crews was cancelled while 1,500 men of Nos 40 and 42 RM Commando began leaving their barracks at Plymouth, while heavy stores were loaded on to the RFA logistic landing ship *Sir Geraint*, which sailed from Plymouth late on April 2.

On April 3 Argentine forces landed on South Georgia and captured the island after a brief and strongly resisted encounter with the island's defence force of 22 Marines. During the attack the Marines, using a Carl Gustav anti-tank mortar shot down an Argentine Puma helicopter and severely damaged a corvette below the waterline with the same weapon. Argentine casualties in this brief but bloody encounter cannot be ascertained with any accuracy.

All during Sunday April 4, the Argentines continued to land troops and equipment including armoured personnel carriers (LT VP 7s) and A/A guns on the Falklands. By the end of the day over 2,000 Argentine troops were dug in around strategic points around the islands and further fortifications were under preparation. Four light jet aircraft with rockets on underwing pylons were noted on

the airstrip late on April 3.

On April 5, the entire carrier force of the RN — *Invincible* and *Hermes*, together with the assault ship *Fearless* sailed from Portsmouth for the Falklands. *Invincible* sailed first at 1000 hrs, followed by *Hermes* at 1115 and *Fearless* on April 6.

HMS *Hermes* was designated flagship of the Task Force and later in the voyage south the Task Force commander, Rear Admiral J F Woodward hoisted his flag on the carrier. Other units were due to join the Task Force from Gibraltar while others subsequently sailed from Plymouth.

There is no doubt that in spite of political confusion over the Falkland Island crisis, once the MoD was given the order to prepare a Task Force it was able to assemble the force with considerable alacrity. Nor should it be forgotten that dockyard workers in Portsmouth worked throughout a whole weekend without break to help load the ships and make them ready for sea. They had reason to, for many of them face being made redundant if Mr Nott proceeds with Defence cut plans to considerably reduce the size and scale of work in the Royal Dockyard. Certainly in this crisis Portsmouth dockyard and its workers have more than proved their value. Could it all have been achieved from one dockyard at Plymouth?

During Sunday April 4, at a Privy Council meeting at Windsor an Order in Council was drawn up for the requisitioning of merchant ships. This was followed on April 5 by an order requisitioning the P & O cruise liner *Canberra*, whose captain Dennis Scott Masson is an officer in the Royal Naval Reserve. As soon as the liner docked at Southampton on April 7, shipyard workers from Vosper Thornycroft went on board to erect helicopter landing pads and commandos and men of the 3rd Parachute Battalion began embarking stores ready for a long voyage to the South Atlantic.

Also requisitioned along with the *Canberra* was the 8,000-ton *Elk* a shallow draft RO-RO ferry used on a Scandinavian route. Both ships were fitted with RAS equipment and have subsequently refuelled satisfactorily from an RFA tanker at sea, *Canberra* using the abeam method and her RAS gear, and *Elk* picking up a fuel line trailed astern from *Plumleaf*.

The two aircraft carriers continued loading stores by helicopter as they sailed down the English Channel, but once out in the open Atlantic they immediately began to work up to combat readiness with continual exercises involving realistic damage control, combat air patrols, flight deck exercises all designed to bring the ships up to maximum front operational condition, which even included a Sea Harrier firing a live SIDEWINDER missile.

The Sea Harriers on the two carriers carry out daily exercises to improve their combat efficiency in preparation for carrying out three roles in the Falklands.

1. To support any amphibious assault that might be planned.
2. To gain absolute air superiority over the Falklands.
3. To protect the task force.

In order to provide increased capability and cover against attrition another ferry *Atlantic Conveyor* was



requisitioned on April 14 and a further 20 RAF Harriers were due to be loaded on her for transport to the Falkland Islands. Prior to embarkation the RAF Harrier pilots were given a brief training spell on the ski ramp trainer at the RN shore base at Yeovilton. Although capable of operating from the carriers the most likely role for the RAF Harriers would be ground support (their normal role in RAF service) for any amphibious operations, freeing the Sea Harriers for combat air patrol. However, there are fears that the RAF Harriers will suffer corrosion in the sea environment, which they are not protected against.

Meanwhile the *Canberra* loaded troops (650 men of the 3rd Battalion Parachute Regiment and Commandos) and the *Elk* heavy bridging equipment and Scorpion and Scimitar light tanks from two armoured reconnaissance troops of the Blues and Royals, and one of the two Household Cavalry Regiments. HMS *Illustrious*, the second of the 'Invincible'-class carriers was also having her trials programme accelerated.

During the week prior to Easter and immediately following, more UK merchant ships were requisitioned for supporting the Fleet and transporting troops and supplies to the South Atlantic. A number of large salvage tugs as well as BP tankers and trawlers, the latter possibly for use in a mine countermeasures role, although their value in such a role must be considered to be rather dubious for unless they were to be fitted with certain minehunting equipment they would be virtually useless if the Argentine Navy laid ground influence mines.

All in all Britain has put together a force of considerable size that will be capable of conducting an expected extended campaign in the South Atlantic.

However, doubts and questions have inevitably been raised as a result of the Falkland Operation. Nearly everyone agrees that the Government is at last pursuing a correct policy but at what cost? It is, perhaps, worth reflecting on the questions which must be posed and answered once the Falkland crisis is resolved.

1. Can the Defence Secretary afford to reduce RN strength to a level where it is unable to mount operations with the necessary minimum strength out of NATO defined areas?
2. Can Britain, in view of the operation which has had to be mounted, afford to sell off the *Invincible*. The Falklands operation has required the presence of our only two carriers. *Illustrious* is still working up and Britain as a result has been unable to meet its full NATO naval commitment. For how long could NATO carry out its own commitments without the full support it expects from the RN?
3. Is it wise defence policy to neglect any overseas commitment or territory? Even the occasional, irregular visit of one or two frigates in the South Atlantic region might have been sufficient to deter Argentine military operations against the Falklands. Can Britain now afford not to maintain a naval presence in the South Atlantic in support of our territory in Antarctica?
4. Careful consideration must be given to the present state of the UK merchant fleet. They have responded marvellously to the call, but to what extent can the MoD

call up British merchant vessels before it begins to seriously disrupt our maritime trading capability?

5. Is it wise to run down so many of our naval shore establishments and bases. Portsmouth dockyard and its workers responded magnificently — if the dockyard had run down, could the whole Task Force have been assembled and readied as easily at Plymouth alone?

These and many other questions, some of which doubtless have to come to light, will have to be very carefully considered, and answered to the satisfaction of the British public. The Defence White Paper due last month, ought to be re-written in the light of the Falkland Islands crisis and the questions posed above.

In the Falkland Islands themselves, meanwhile, Argentina has continued to build up her forces until, at the time of going to press, there was an estimated 10,000 Argentine troops on the islands with airlifts from the mainland bringing further reinforcements running at up to 100 flights a day.

A trial of strength could certainly not be ruled out when we went to press, and although in many ways the British Task Force might be considered superior to the Argentine Force, it was facing in many areas numerically superior forces operating from well prepared and defended bases.

Although a reasonably well balanced and provisioned Task Force (although its air cover might be considered to be understrength with only a limited number of Sea Harriers), the British Fleet, if it has to fight, has an extremely hazardous task ahead of it. It will be thousands of miles from a secure base, and it will be essential that a base (South Georgia is the obvious choice, but it has to be taken first) is secured nearer the scene of operations at the earliest possible opportunity. The force will also suffer from the problem of maintaining operations in a difficult climate — winter is now approaching in the Falklands.

Even if the Task Force merely engages in blockading the Falklands, it will require considerable logistic back up — hence the requisitioning of a number of merchant ships. Replenishment at sea will be the order of the day and again if the Fleet has to fight, a prodigious amount of fuel and ammunition will be required, not to mention food and water. While the RFA is perfectly capable of maintaining the Fleet at sea in this way, at a distance of 7,000 odd miles from the UK the RFA itself will have to be supplied. It appears that Ascension Island will become a halfway staging post and that RFAs will return to Ascension to replenish, while requisitioned merchant ships will be used to restock stores at Ascension.

If the campaign becomes prolonged, as many now think likely, then the RFA may become hard-pressed to maintain its high standard of service. Refuelling may not be such a difficulty as mercantile tankers can be relatively easily converted for such a task, and in any case the RFA has a strong fleet of replenishment oilers.

It will be the supply of ammunition and dry stores at sea which may be the problem area, as with only two 'Fort'-class and two 'Regent'-class support ships, a long campaign and wear and tear on the support ships may well lead to a situation where there are insufficient RAS ships of this sort to maintain a fleet of the size that the MoD intends keeping in the area of the Falklands.



## BRITISH TASK FORCE

The following vessels have been identified as having been allocated to the RN task force for the Falklands, but only units marked thus\* sailed with the initial force.

UNITS	ARMAMENTS		
<i>Carriers</i>			
*Invincible	801 Sqdn (Sea Harrier - 5 aircraft) 899 Sqdn (Sea Harrier - 3 aircraft) 820 Sqdn (Sea King - c 10 aircraft)  1 x SEADARTS-A	*Plymouth Rhyl Yarmouth	1 x 2114mm 2 x 120mm 1 x 4 SEACAT S-A 1 x LIMBO ASW 1 x Wasp (829 Sqdn)
*Hermes	846 Sqdn (Sea King Mk4-6 aircraft) 826 Sqdn (Sea King Mk 2/5 - 10/12 aircraft) 800 Sqdn (Sea Harrier - 6 aircraft) 899 Sqdn (Sea Harrier - 6 aircraft) 706 Sqdn (Sea King Mk 5 - c 4 aircraft) Total 18 Sea King	<i>Submarines</i> *Superb ? *Spartan +?Sceptre Splendid	5 x 533mm TT 20 TIGERFISH torpedoes
<i>Destroyers</i>			
*Glamorgan *Antrim	4 x 1 EXOCET S-S 1 x 2 SEA SLUG II S-A (30 missiles) 2 x 4 SEACAT S-A 1 x 2114mm 2 x 120mm 1 x Wessex HAS 3 (737 Sqdn)	<i>Amphibious Warfare</i>  *Fearless† Intrepid	4 x 4 SEACAT S-A 2 x 140mm 4 x LCA 4 x LCM 9 700 troops †Wessex Mk 5 (845 Sqdn - 5 aircraft)
Coventry Glasgow Sheffield	1 x 2 SEA DART (20 missiles) 1 x 114mm 1 x 220mm 2 x 3 Mk 32 ASW TT 1 x Lynx (815 Sqdn)	*Sir Geraint *Sir Galahad *Sir Bedevere  *Sir Percival *Sir Tristram *Sir Lancelot	Beaching capacity 340 tons Gazelle or Scout of 3 Cdo Bde Air Sqdn (total 8 Gazelle, 2 Scout)
<i>Frigates</i>			
Active† *Arrow *Alacrity *Antelope	4 x 1 EXOCET S-S 1 x 4 SEACAT S-A 1 x 114mm 1 x 220mm 2 x 3 Mk 32 ASW TT 1 x Lynx (815 Sqdn) †1 x Wasp (829 Sqdn)	<i>RFA's</i> <i>Fleet Oilers</i>  *Tidespring	18,100 tons fuel Wessex Mk 5 (772 Sqdn) 6,600 tons fuel + dry stores and water
*Broadsword Battleaxe *Brilliant	4 x 1 EXOCET S-S 2 x 6 SEAWOLF PDMS 2 x 140mm 2 x 3 Mk 32 ASW TT 2 x Lynx (815 Sqdn)	Blue Rover Grey Rover *Pearleaf Plumleaf *Olmeda *Appleleaf	Sea King Mk 2 (824 Sqdn - 1 aircraft)
Aurora Dido Euryalus	1 x IKARA ASW 1 x LIMBO ASW 2 x 4 SEACAT S-A 2 x 140mm 1 x Wasp (829 Sqdn)	<i>Fleet Replenishment</i>  *Fort Austint† *Resource *Stromness	Lynx (815 Sqdn - 4 aircraft) Sea King Mk 4 (B flight 846 Sqdn)
Ariadne	1 x SEACAT S-A 1 x 2114mm 2 x 120mm 1 x LIMBO ASW 1 x Wasp (829 Sqdn)	†Flying the flag of Captain S C Dunlop, Commodore of the RFA	
<i>Ice Support Ship</i>			
Endurance			
<i>Merchant Ships Requisitioned/chartered by MoD</i>			
<i>Liners</i>			
Canberra (P&O) Troopship 45,000 tons Uganda (P&O) Hospital Ship 14,000 tons			



### Cargo Ships

Elk (P&O) Ro-Ro 8,500 tons  
Atlantic Conveyor Ro-Ro 18,000 tons  
Norland Ro-Ro 12,988 tons  
Europic 4,190 tons  
Finnanger 21,267 tons

### Tankers

Tamar (BP) 15,642 tons  
Tay (BP) 15,650 tons  
Esk (BP) 15,642 tons  
Test (BP) 16,653 tons  
Dart  
Esso Fawley (Esso) 11,064 tons  
Wye (BP) 15,649 tons  
Avon (BP) 15,540 tons  
G A Walker (Canadian Pacific) 18,744 tons  
Shell Burma (Shell) 19,763 tons  
Ivy (BP) 13,271 tons  
Fern (BP) 13,252 tons

Cortina 6,499 tons  
Luminetta (Cunard) 14,925 tons  
Irionman 3,623 tons  
Fort Toronto (Canadian Pacific) 19,982 tons

### Trawlers

Northella 1,238 tons  
Cordella 1,238 tons  
Farnella 1,207 tons  
Junella 1,615 tons

### Oilfield Supply Ship

Stena Seaspread 9,000 tons (for use as repair ship)

### Tugs

Yorkshireman  
Irishman  
Salvageman

## NAVY INTERNATIONAL COMPARISON OF RELATIVE STRENGTHS ARGENTINE v FLEET AIR ARM by Paul Beaver

### Argentine

Type	Number in Service	Role	Range	Armament
Mirage IIIE	19	strike fighter	745 miles	2 x 30mm cannon; 3 x 1,000lb
Canberra B62	9	light bomber	805 miles	2 x 20mm cannon; 3 x 1,000lb
FMA Pucara*	45	light attack	1,000 miles	2 x 20mm cannon; up to 3,000lb
A-4P Skyhawk	40	strike fighter	900 miles	2 x 3mm cannon; up to 8,200lb
MB326GB <sup>2</sup>	7	strike	360 miles	2 x 7.62mm guns; up to 4,000lb
MS760 Paris <sup>2</sup>	44	light attack	200 miles	2 x 7.62mm guns; up to 900lb
Super Etendard <sup>3</sup>	6	naval fighter	1,500 miles	2 x 30mm cannon; up to 9,900lb
A-4Q Skyhawk	14	naval fighter	900 miles	2 x 30mm cannon; up to 8,200lb
S-2E Tracker	6	ASW patrol	1,800 miles	6 x 250lb; 4 x 385lb (internal)
P-2 Neptune	3	ASW patrol	4,000 miles	up to 8,000lb
KC-130H Hercules	2	patrol	5,000 miles	reconnaissance only
Westland Lynx	2	ASW shipborne	400 miles	2 x Mk44 torpedoes
S-61 Sea King	6	ASW carrierborne	600 miles	4 x Mk44 torpedoes; 4 x depth bombs

\*capable of operating from lightly prepared strips, such as Port Stanley Racecourse

<sup>2</sup>thought to be of insufficient range and used for training or by land forces

<sup>3</sup>not thought to be operationally worked up



### Argentine Military Forces

Type	Number	Role	Range	Armament
Aeritalia G222	3	Transport	1,800 miles	44 troops or 32 paratroopers; vehicles
Boeing C-137*		Transport	4,000 miles	150-200 troops
C-130E Hercules	3	Transport	5,000 miles	92 troops or 64 paratroopers; heavy equipment
C-130H Hercules	4	Transport	5,000 miles	92 troops or 64 paratroopers; heavy equipment
Fokker F-27	11	transport	1,400 miles	45 paratroopers; light equipment
C-47 Dakota*	6	Transport	2,000 miles	freighter
Skyvan	5	Light transport	500 miles	22 troops (STOL performance)
DHC-6 Twin Otter*	8	Light utility	120 miles	20 troops (STOL performance)
SA Alouette III	9	Liaison/attack helicopter	60 miles	AS.11' or miniguns
SA Puma	15	Assault helicopter	360 miles	Miniguns; 20 troops or 6,000lb load
Bell UH-1H	26	Assault helicopter	250 miles	Miniguns; 15 troops or light loads
Bell Kiowa		Observation helicopter	300 miles	Miniguns
Hughes 500	100	Observation/attack helicopter	350 miles	Miniguns
Sikorsky S-58*	2	Transport helicopter	280 miles	Miniguns or 3,000lb load
Boeing Vertol Chinook	5	Transport/Assault helicopter	400 miles	44 troops

\*it is not thought that these types would operate in the Falkland Islands but they could be used for back-up work in the Argentine.

### British Fleet Air Arm

Type	Number embarked	Squadrons	Role	Range	Armament
Sea Harrier FRS1	16	800, 801, 899	naval fighter	600 miles	2 x 30mm cannon; 2 x AIM-9L Sidewinder; 2 x 2,000lb; 2 x 650lb (dependent on role)
Sea King HAS2/5	30	814, 820, 826, 706, 824	ASW helicopter	600 miles	4 x Mk44/46; 4 x depth bombs; miniguns
Sea King HC4	12	846	Assault helicopter	350 miles	GPMG (28 marines or 7,000lb load)
Lynx HAS2	10	815	ASW/strike helicopter	320 miles	2 x SEASKUA; 4 x Mk44/46 torpedoes; GPMG
Wessex HAS3	2	737 (DLG Flts)	ASW helicopter	300 miles	2 x Mk44/46 torpedoes; depth bombs
Wessex HU5	18	845, 772 (HDS)	Assault/supply helicopter	300 miles	2 x AS11 (16 marines or 3,000lb)
Wasp HAS1	5	829	ASW helicopter	350 miles	2 x AS12; 2 x Mk44; depth bombs

In general terms, the Sea Kings and Sea Harriers are embarked in the CVLs, with the more modern destroyers and frigates (Type 42s, 'Leanders' and Type 22s) carrying the Lynx. The Wessex HAS3 helicopter is operated from the 'County'-class DLGs and the Wasp from the older 'Leanders' and the 'Rothesays'. It is thought that the LSLs and *Fearless* will carry the assault Wessex HU5s, whilst the HDS aircraft are borne by some of the RFAs. Certainly, *Fort Austin* can be expected to carry two flights of 824s Sea King HAS2s.

It is unsure at the moment whether the Royal Marines have elements of the 3rd Cdo Brigade Air Squadron embarked in *Hermes* or *Fearless*, but it would seem probable that a number of Gazelle AH1 and Scout AH1 light helicopters are deployed.



# Logistics — The involvement of the Merchant Navy *by A J Ambrose*



The requisition of P & O Cruises 44,807GR1 cruise ship *Canberra*, and a number of other vessels, including salvage tugs, tankers, and roll on roll off freighters, has shown quite clearly, that the British Government and the Ministry of Defence do see a strong need for merchant vessels in times of crisis. This has shown, also quite clearly, that a shortage of suitable vessels exist as intrinsic members of the Naval fleet, and hopefully, this may provide first hand education to future defence policy makers when they come to order new ships. However, these factors aside, just how can the merchant fleet help, and what type of vessels are most suitable for use in an operation such as the Falklands Crisis?

Basically, one of the largest problems to be faced in mounting a long range task force operation in the South Atlantic, is that of logistics due to the lack of useable supply bases in the area. Essentially, this is a problem to be faced by specialised RFA vessels, capable of transferring their supplies at sea, and as such, it is unlikely that the merchant vessels would be used for this purpose. However, where they most certainly are of value, is in supplying and re-storing the RFAs. Initially tankers are the most obvious ship-type required, as the large distances make severe demands on the fuel capacities of the front line naval vessels involved, and at the time of writing, three such tanker charters have been announced. These vessels are small general purpose tankers belonging to BP and are all around 25,000 deadweight tonnes. As the three tankers, *British Elk*, *British Tamar*, and *British Tay* have only been chartered, rather than requisitioned, and, as the MoD appear likely to charter additional 'foreign flag' tankers too, it would seem that these ships will only be used to ferry between the UK and Ascension Island or St Helena, from whence the RFA will take over.

A like policy had been announced for the *Canberra*, in that she too would not enter hostile waters, however, this does not necessarily mean that she would visit Ascension or St Helena, as it has also been made clear that her 2,000 embarked Royal Marines Commando, and Parachute brigade troops would transfer to Naval vessels by helicopter and small craft, the exact location where this would take place therefore being subject only to weather conditions and the size of swell running. *Canberra* was chosen for troopship duties due to a number of factors, not the least of which being her geographic location at time of requisition, as she was approaching Southampton after a four month world cruise, and the obvious second choice, the *Queen Elizabeth 2*, was still far distant.

Other factors in *Canberra's* favour undoubtedly include her service speed, which at 27½ knots would enable her to reach the South Atlantic fairly quickly without holding up her escorts too much; and indeed, the experience of her master, who is no stranger to Naval operations, having himself served aboard various RN vessels and spent much time both lecturing at Dartmouth college and taking part in various naval Hydrographic projects.

As regards *Canberra's* conversion into the troopship role, little basic structural work was required, as a total only 2,000 troops were to be accommodated on board anyway. Officially, no reason has been given for this somewhat low number, although logic and the movement of other merchant vessels does give some indication: As a liner *Canberra* had a capacity for over 2,000 passengers and this figure was only reduced to her present 1,737 in order to allow extra space for cruise clientele. As such, embarking only 2,000 troops would require little or no internal alteration, therefore allowing *Canberra* a quick turnaround so that she could be *en-route* for the South Atlantic within 48 hours: Whereas, had she embarked a full complement of between 5,000 and 8,000 troops, her departure would have been delayed for some days.

Other influencing factors include the reduction of the troops efficiency on a journey of such length, were the ship to have been full, (remembering that the theory of her use as a troopship involves only a 3,500 mile transatlantic journey from the USA to Europe, where a journey time of only 5½ days is envisaged). Other ship movements probably also played a part, as should the MoD require additional capacity, they could have called upon the services of the *Queen Elizabeth 2* (due in at Southampton on Monday April 12), and several of the larger ferries operating on the North Sea routes such as the 12,988 ton *Norland*, which has a capacity for 1,400 passengers plus a considerable roll on roll off cargo capacity similar to that of the *Elk*.

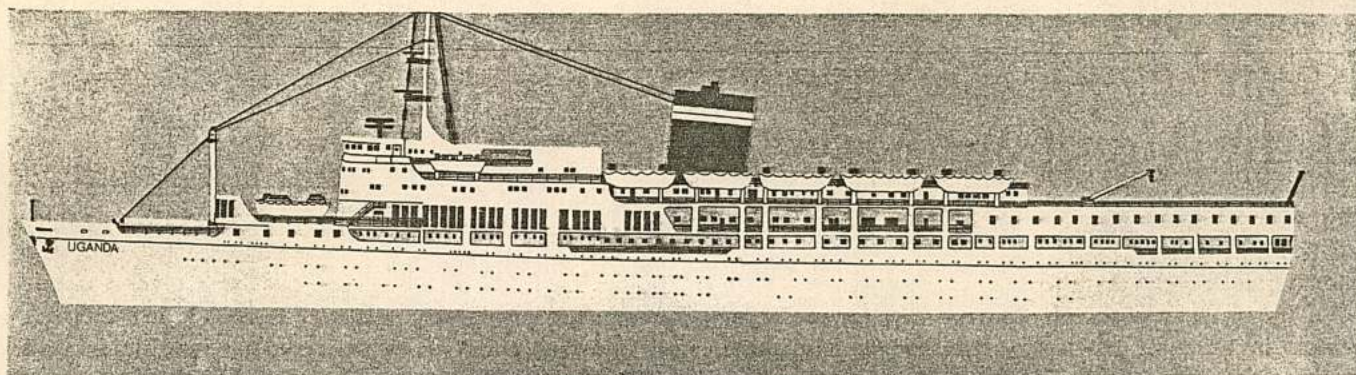
In addition, by operating typical P&O style 'fly-cruises' an air shuttle between the UK and Gibraltar or Ascension Island with onward travel in the *Uganda* could have resulted; *Uganda* being ideal for this task as she has large dormitory style accommodation, and flat decks aft with no obstructing rigging, which could be used for helicopter transfers.

For reinforcement duties, should these be needed, P&O's third largest cruiser ship the *Sea Princess*, (due into Southampton at 0700hrs on April 23), or any one (or more) of a number of ro-ro ferries, could also be pressed into service if the situation demands.

The conversion of *Canberra* was minimal by some standards, but extremely impressive in the speed and efficiency with which it was carried out. *Canberra* was due in at 0700 on the Wednesday, and even as she came up the channel, work was already underway on her new heli-decks.

The steel for these decks came in from Scotland early in the morning of the previous day, and went straight into Vospers No 1 fabrication shop where work started as it was unloaded. However, the job did not go off without hitches, as it was found that when the deck was completed, it was too large to get through the doors of the workshop! However, such trivialities are no problem to Vospers: They simply cut the front off the workshop, and soon had the structure out and onto two barges which were





SS Uganda in her original markings drawn to scale. In Gibraltar dockyard she was modified in two days as a hospital ship for 1,000 patients, carried 200 extra beds and 100 naval officers and nurses. A helicopter landing pad had been built at the stern and the whole ship painted white with the prominent Red Cross sign.

used to float the assembly across to the ship.

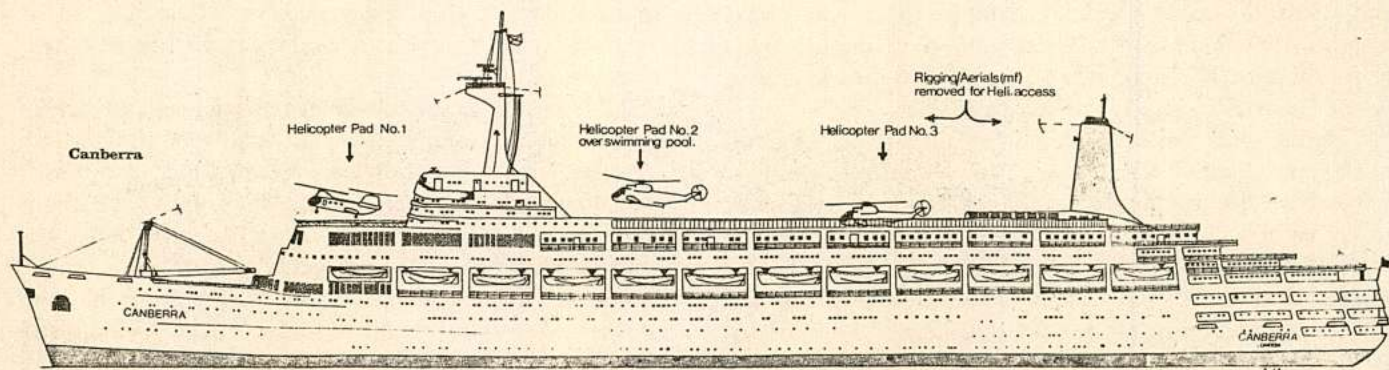
Work on the heli-deck abaft the bridge and directly above the upper deck swimming pool, was completed before the ship sailed, but the second heli-deck proved more of a problem, and so a team of volunteer welders, platers and caulkers sailed with the ship in order to complete the work; with the intention of disembarking at Ascension Island.

The second heli-deck position eventually turned out to be in front of the bridge, but a third option was available just forward of the funnels, on the same deck as the first platform. The third option however, would have meant either removing the small deckhouse at this level, or alternatively building a platform structure over the top. This may in fact have been a better option as landing on the forward deck leaves little room for error, and may prove to be quite a precarious operation.

In order to allow the helicopters to work in close to the ship, much of *Canberra's* rigging and medium frequency radio aerials had to be removed, and improvised aerials were erected which appeared to be of two types, presumably including military band communications too.

As a hospital ship *Canberra* would not seem to be ideal, although she is quite stable and has an intrinsic hospital and surgery of her own, which has undoubtedly been supplemented to a great degree by the additional equipment put on board. On the other hand, the *Uganda* could almost be said to be purpose built for this task, as her dormitory layout fits the bill exactly, allowing medical staff to keep a better watch on their patients in the ward style configuration, as compared to the 'private room' layout of the *Canberra*.

SS Canberra as modified for the Falklands operation.



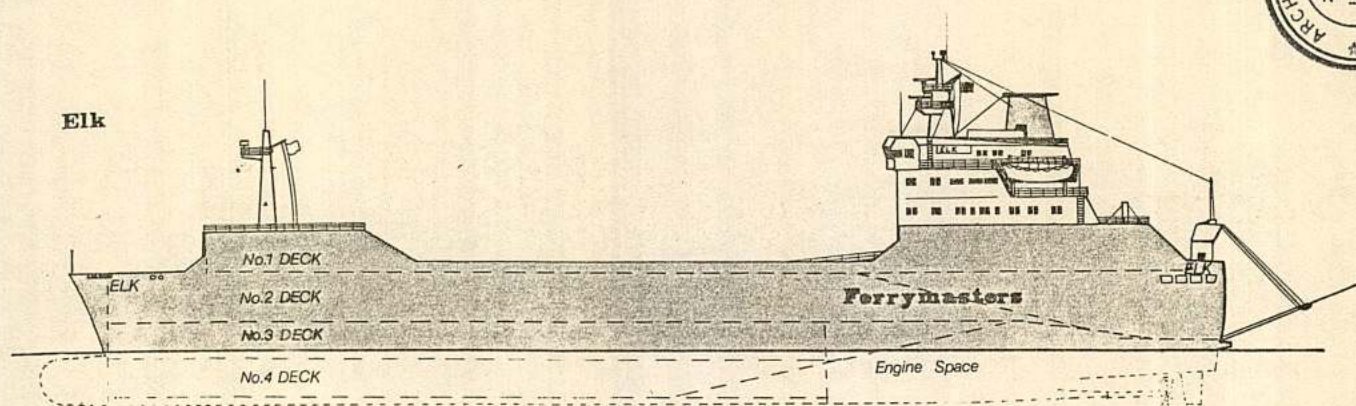
One of the more surprising additions to the *Canberra*, is her deep water replenishing facilities as she has considerable range without such necessity. Unless of course, one considers that she would not be used just for trooping as a liner, but as long term accommodation, standing off from the Falklands, but ready to disembark her troops when a suitable opportunity presented itself. It must be remembered in context, that an immediate re-invasion would seem foolhardy. As such, the mounting of a naval blockade may take some time to have effect before a sensible attack could be made, and therefore *Canberra* would need to remain at sea for some time: hence the replenishing equipment.

Much interest has been shown in *Canberra* by the Soviet Union, as they have apparently detailed off one of the AGIs to follow her progress. At time of writing, the AGI is reported to be following *Canberra* at a distance of about two miles, and showing great interest in both helicopter operations, and in *Canberra's* refuelling, which was taking place as the ship headed out to sea.\*

One of the other P&O vessel's to join the fleet, Ferrymaster's 5,463GRT *Elk*, may well have a more active role to play in the actual invasion, and could in theory go all the way through to the Falklands. However, her need for some form of prepared berth or linkspan, would rule out her use in any initial assault group, although she could land a large amount of heavy armoured equipment once a suitable deep water landing point or pontoon-vehicle ramp had been established. *Elk* is a

\*The Soviet Union makes considerable use of merchant vessels in support of naval operations and will obviously try to learn as much as possible from this operation. Ed.





The Ro-Ro ferry Elk requisitioned by the MoD to carry light tanks and earth moving equipment to the Falklands.

shallow draught vessel of the 'Searunner'-class roll on roll off ships, and if additional vessels were required, two sister ships are operated by Townsend Thoresen on their Felixstowe-Zeebrugge route, and P&O/North Sea Ferries *Norsea*, and her sister ship *Puma/Tipperary*, whilst differing in certain aspects would also be capable of embarking a large and heavy force, whilst retaining very long range capabilities, and service speeds of about 18 knots. Many other ro-ro ships would also be available to the MoD as Britain has quite a healthy fleet of this nature, however most of these are relatively short range, cross channel type ships, and as such their requisition would be unlikely.

Other merchant ships already under admiralty orders include virtually all the United Towing Company's fleet of large powerful long range ocean going salvage tugs, including Britain's most powerful tug, the 20,000 horsepower *Salvageman*, which, designed for hauling the largest ULCCs and oil rigs, has power enough to haul anything she is likely to come across in the South Atlantic, including even, a badly damaged ex-HMS *Venerable* if necessary. United Towing are also, like P&O, no stranger to naval operations, as their earlier vessels such as *Lloydsman* and *Statesman* were involved quite heavily in the 'Cod War' clashes a few years ago.

Smaller than *Salvageman* but just as effective, are the

two 9,000 horsepower tugs *Irishman* and *Yorkshireman* which are also en-route for the South Atlantic, and although exerting only 70 tons bollard pull compared to *Salvageman's* 170 tons, could safely cope with any of the naval or commercial vessels involved in the conflict.

Details of other vessels requisitioned or chartered, are presently not being released, but it is believed that a further two ships have been requisitioned under admiralty orders, and seven other tankers have been chartered by the MoD for home waters use, presumably to temporarily replace RFA units sent south.

In a conflict such as the Falklands Issue, the present Merchant Navy could go on and on, supplying back up vessels for the RN. But, as to how long the British will still have a merchant fleet available to be chartered or requisitioned is another matter. Recent years have witnessed massive declines in the UK fleet, and there appears to be no forthcoming reversal or halt to this policy. Each year, less and less tonnage appears on the British register, primarily due to severe trade union activities both ashore and afloat and the high operating costs thereby involved. It is high time that these counter productive activities were halted, for although the merchant fleet can cope with a South Atlantic war, larger scale hostilities in the North Atlantic may well prove a very different story.











ESCUELA DE GUERRA NAVAL

TACTICA

AN OLD LITTLE WAR TURNS VERY UGLY

(Newsweek MAY. 17, 82)





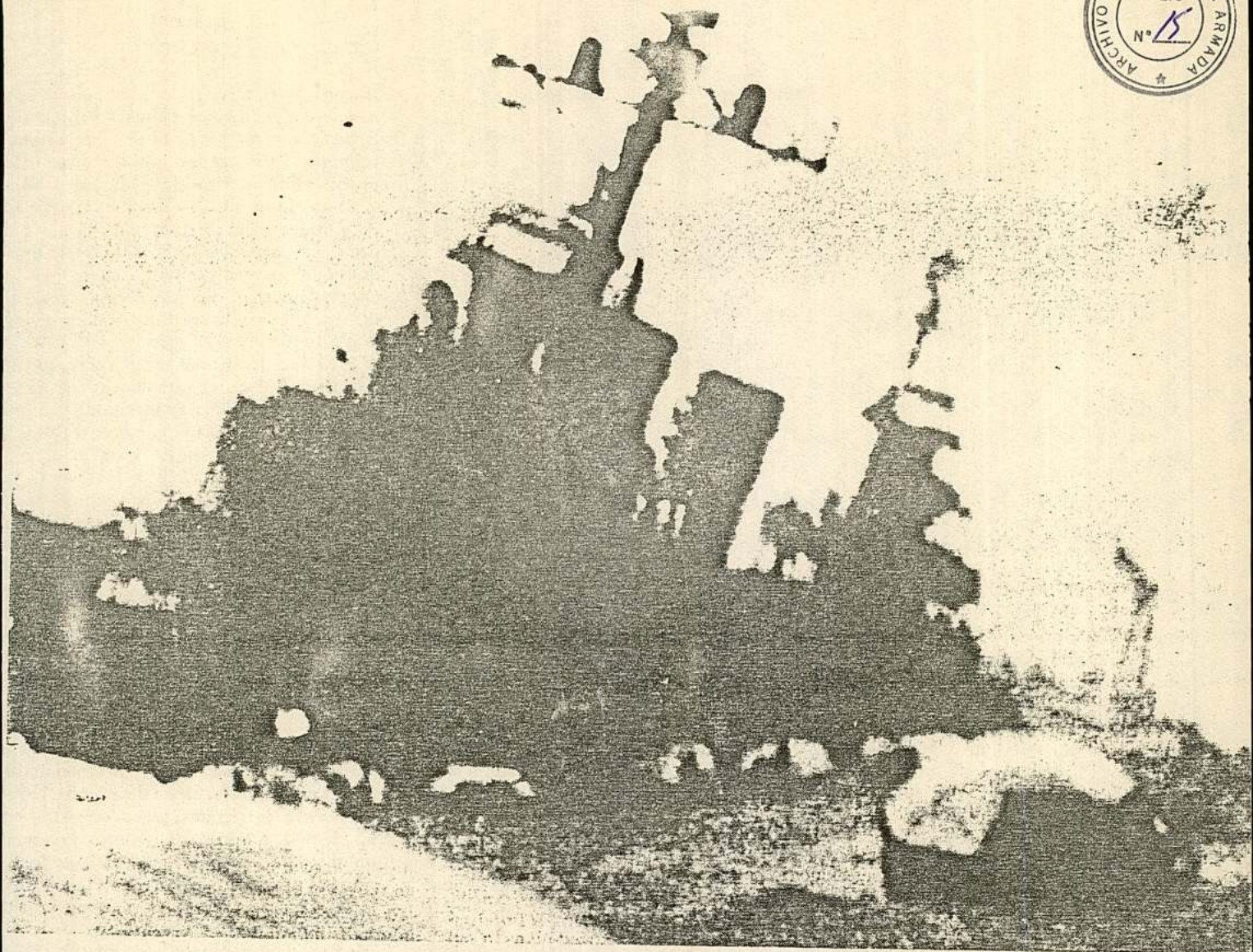


OF. 012









*crewmembers napped, a killer torpedo struck the hull, forcing a perilous evacuation—and leaving hundreds of Argentine sailors dead or missing*

Falkland Island. The British lost two more Harriers later in the week. Not long after the two planes lifted off on routine air patrol, the Invincible abruptly lost radio contact. A day-long search failed to turn up the jets; they may have collided in the stormy skies and exploded. The disappearance left 24 Britons dead in the conflict—and brought the over-all death count to at least 400.

The mounting casualties put new pressures on London and Buenos Aires to return to diplomacy. The heat was particularly strong on London. Britain's European allies, who had backed London fully at the outset, began to voice loud second thoughts after the downing of the Belgrano: Ireland, France, West Germany, Holland and Denmark all publicly urged Britain to seek a negotiated solution. In the House of Commons 80 members of the opposition Labor Party signed a petition demanding an immediate cease-fire. And cautiously Labor's leaders began to rethink the loyal support they have shown so far for Thatcher's handling of the crisis.

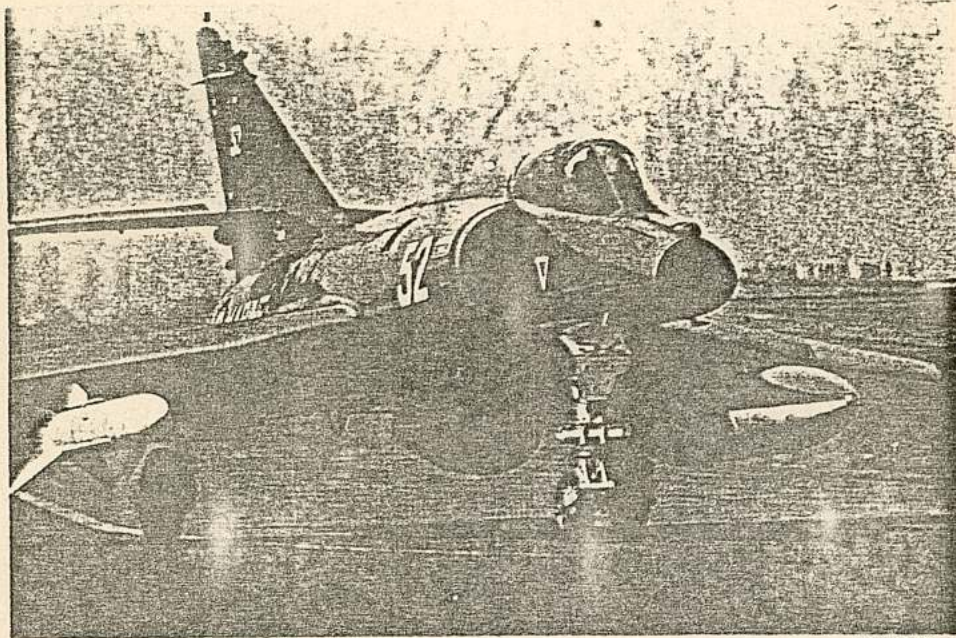
As a result of these pressures, the British came up with new concessions during talks over a short-lived peace initiative offered by President Fernando Belaúnde Terry of Peru. But in key respects Belaúnde Terry's proposals only mirrored Alexander Haig's earlier and equally abortive plan: they called for withdrawal by both sides, an interim administration over the Falklands and talks on sovereignty. Although the Peruvian leader caught Haig by surprise with his effort, the Secretary of State enthusiastically embraced the new plan. As the initiative took shape, Haig and his aides persuaded the British to compromise significantly on London's central concern thus far—the future of the 1,800 residents on the Falklands.

**Breakdown:** During a nighttime working session at the State Department, the British agreed to stop insisting that the wishes of the Falklanders be "paramount." Instead they said they would ask simply that the sovereignty talks "take into account the wishes and aspirations of the inhabitants."

They also pledged to wrap up the negotiations by next April 30 and to accept a four-way interim administration of the islands run by the United States, Peru, Brazil and West Germany. But before the plan could take hold, Buenos Aires rejected it. Each side blamed the other for the breakdown; but in fact the initiative had little chance of success from the start. "The feeling among the Argentines is that it was the Haig plan translated into Spanish," concluded one top U.N. diplomat. "It was dead the moment the United States tilted toward Britain."

With Haig's mission at a dead end, hopes ran higher for a second initiative proposed by United Nations Secretary-General Javier Pérez de Cuéllar. In New York Cuéllar met for extended private talks with Britain's U.N. Ambassador Sir Anthony Parsons and Henrique Ross, Argentina's Under Secretary of State for Foreign Affairs. The U.N. blueprint included a cease-fire, a phased withdrawal of Argentine and British forces under U.N. or third-party supervision, an interim administration under the U.N. flag





Chris Sorensen

*The Etendard with an Exocet missile: An old-fashioned war with deadly new weapons*

and U.N.-sponsored talks over the future of both the islands and the islanders. It excluded the knotty issue of sovereignty—at least publicly—from the bargaining table. The idea, according to one U.N. diplomat, was to “beg the question sufficiently to let both parties claim victory and save face enough so that they can sit down to negotiate a peaceful settlement of the issue.”

**Sticking Point:** The problem was that the U.N. plan begged a vital question. Thus far Argentina has sought guarantees in advance that any diplomatic process would lead to ultimate Argentine sovereignty over the Falklands. After allowing that sticking point to scuttle the Haig plan last month, Western diplomats stressed, Buenos Aires

was hardly likely to abandon the demand now. The Argentines may have meant to exploit the intentionally vague wording of Pérez de Cuéllar’s proposals to press for a cease-fire without a prior Argentine withdrawal from the islands. If such a notion came before the Security Council, it would face a certain veto by both Britain and the United States. “A cease-fire and an Argentine withdrawal must be coupled,” insisted one senior U.S. official. “We don’t want any air between us and the British on that one.”

With prospects for a diplomatic settlement dimming at the weekend, renewed warfare seemed inevitable. Peru offered unspecified military support to Argentina “if asked.” Brazil also announced plans to sell

## SPECIAL REPORT

Buenos Aires modern anti-submarine and naval reconnaissance planes to track the British fleet. As the junta put the national economy on a war footing, the Argentine people whipped themselves into a new lather of war hysteria. Trade unions boycotted Argentine-based British and American firms. A crowd of 15,000 Argentines crammed a soccer stadium to cheer the war effort. And across Buenos Aires large posters sprang up exhorting Argentines to “fight to the death.”

**Invasion:** In Britain there were calls for a swift and decisive invasion of the Falklands. If a landing was inevitable, the inhospitable winter settling in over the South Atlantic certainly argued in favor of getting it done quickly. On board British ships in the area, crew men wore face masks and three layers of sweaters against the bitter cold. The spray on the decks will soon turn to ice, and sailors were warned that without a special rubber suit, a fall into the freezing seas would bring death in less than two minutes. “You cannot keep troops rolling around on transports on the South Atlantic for long,” stressed one U.S. military officer. “You have to put them ashore almost immediately or they’ll be no good for anything.”

Even so, major obstacles still stood in the way of a British assault on the islands. Until the twenty Harrier jets still en route showed up, British air losses left only seventeen jump jets to furnish air cover for an invasion. The British had rigged up the luxury liner Queen Elizabeth II and other civilian ships to ferry more men to the battle zone; but they would merely bring British troop strength to between 5,000 and 6,000 men—only half the number of Argentine troops

## Lessons for the U.S.

*The Reagan Administration tried hard to avert a war between an old ally and a would-be friend. But the conflict is still seething, and NEWSWEEK’s chief diplomatic correspondent John Walcott reports that the failure of American mediation offers some preliminary lessons for future U.S. policy:*

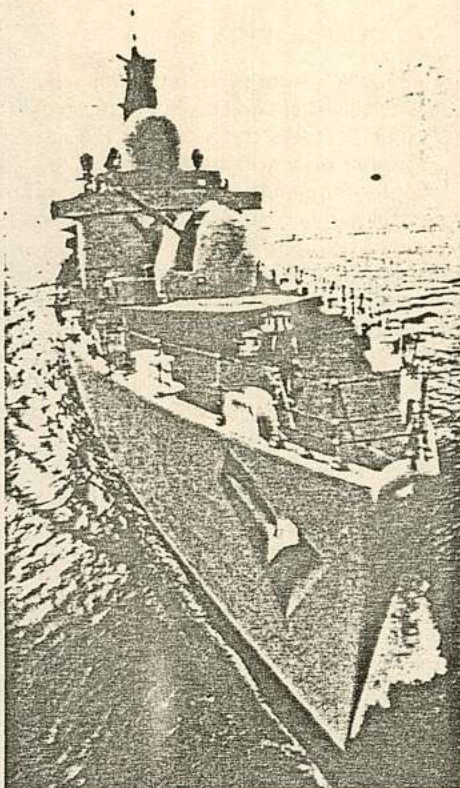
1. The Administration’s single-minded emphasis on East-West problems may have encouraged the Argentines in their grab for the Falklands. Some State Department officials now concede that American attempts late last year to recruit the Argentines for covert missions against Nicaraguan and Cuban efforts in Central America led the junta to believe that Washington would overlook moves to “recuperate” the islands. Senior U.S. officials stress that the Argentines never raised the possibility of a move on the Falklands to U.S. envoys. Nonetheless, one U.S. diplomat concedes: “When any relationship turns sour, it’s usually because of what was not said, not what was said. . . . We never told them that we cared about things other than communist subversion and now they’re surprised to find that something else matters more.”

Reagan’s tilt toward Britain broadcasts a message to right-wing regimes in Latin America and around the world that they do not

have carte blanche from Washington to assert irredentist claims. The question now is whether Washington will broaden that message. U.S. arms sales to Pakistan, for example, need to be tempered with warnings to President Mohammad Zia ul-Haq that the administration will tolerate neither eternal military rule nor his ambitions to develop the first “Islamic” atom bomb. Robert Pastor, a former Carter Administration official, sums up the matter bluntly: “The idea that the U.S. has a total coincidence of interest with military dictatorships is absurd and may give dictatorships the mistaken impression of support for their own pet projects and peccadilloes.”

2. The second lesson of the Falklands tangle is that arms sales are no substitute for sound diplomacy. The Reagan Administration worked hard to convince Congress that the Argentine junta had improved its human-rights record and that arms sales to Argentina should be resumed. The Administration also dispatched a host of high-ranking U.S. officers to Buenos Aires and invited Argentine generals to visit Washington. The emphasis on the military only encouraged the junta to think in military terms. “The problem is not arms sales themselves but what they symbolize,” argues former Defense Secretary James Schlesinger. “This Administration has tended to inflate the political significance of arms sales and in some cases to substitute arms sales for genuine diplomatic initiatives.”





Richard Cooke



Editorial Atlantida—Gamma-Liaison

*HMS Sheffield, a funeral for Argentine servicemen killed by British air attacks: New pressures for a return to diplomacy?*

manning the Falklands. Moreover, NEWSWEEK learned, the Royal Navy has been unable to locate Argentina's two modern, German-made diesel submarines. "They're getting a little panicky about locating those subs," said one American source. "Until they find them, they can't bring on the Canberra or the QE II."

Despite the difficulties, it did not look as if Margaret Thatcher meant to shy away from an armed showdown. "We must con-

tinue with our military activities," she told Parliament. "It would be too easy to say 'no military activities during negotiations.' We should then be hamstrung. The people would still be under the heel of the invader while Argentina increased its activities on the mainland, with supplies and reserves, to attack us at their will." Rallying round, the British people showed their overwhelming support for Thatcher's hard line by handing the Tories sweeping victories in local coun-

cil elections. As time for a peaceful solution ran out, the Pentagon "war-gamed" a battle between the Royal Navy and Argentine forces in the South Atlantic. Although the fighting was simulated, the result rang ominously true: both sides lost in a killing war of attrition.

MARK WHITAKER with TONY CLIFTON in London, HOLGER JENSEN, RICHARD SANDZA and BARRY CAME in Buenos Aires, JOHN WALCOTT in Washington and PATRICIA J. SETHI at the United Nations

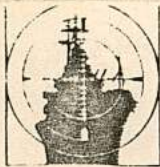
It remains true that simply banning arms sales doesn't do much good. The United States tried for a time in 1978 to stop selling arms to Argentina. The result: Argentina went shopping elsewhere and found plenty of weapons, including the French jet that fired the French cruise missile that sank the British destroyer. Says one Administration official: "You may feel better when you don't sell arms, but you can be sure that if you don't someone else will."

3. The United States has learned that it is woefully unprepared to deal with Latin American regimes. In the State Department and the Central Intelligence Agency, the Latin American divisions have been traditional dumping grounds for has-been diplomats. At the same time, the Administration has no Latin American experts in senior positions except for U.N. Ambassador Jeane Kirkpatrick. And Kirkpatrick, by one account, was frozen out of any role in mediating the Falklands crisis. American ignorance was readily apparent on Secretary of State Alexander Haig's first visit to Buenos Aires. Haig spent most of his time with Foreign Minister Nicanor Costa Méndez, who has no power. "We literally did not know who we should be talking to," laments one U.S. diplomat. Former Assistant Secretary of State William D. Rogers adds: "We are not Latin and most of us do not speak Spanish. Most of us—and I specifically include this Administration—have very little experience in Latin America."

The Administration also miscalculated the impact of its tilt toward Britain on the rest of Latin America. U.S. officials expected trouble, but they were stunned by Venezuela's announcement that it was considering sending arms to Argentina, and by Costa Rica's public mutterings about moving the Organization of American States (OAS) out of Washington. Both nations had been counted among America's closest allies in Latin America. "Now we face the erosion, if not the dismantlement, of the entire inter-American system," says Rogers. Another Latin America hand adds that the Reagan Administration, by mismanaging OAS relations in the crisis, has done more for the Soviet cause in South America than Jimmy Carter ever did.

4. The crisis has shown the Administration something about the risks of high-profile diplomacy. Critics of Haig's shuttle missions say his highly visible role only made it harder for the two sides to find common ground. "People don't make concessions when the cameras are grinding," says one veteran U.S. diplomat. "Haig took a great risk, both for himself and for his President. We have paid a hell of a price for that." Haig was also forced to abandon the tiller of the State Department just when other pressing problems demanded his attention. Says one former Carter official: "Although it's useful for a Secretary of State to be involved in negotiations at times, [he] has other responsibilities." Adds a Reagan official: "Haig's ego got him in trouble again."





# Are Big Warships Doomed?

When a \$200,000 Argentine missile skimmed over the South Atlantic and demolished a \$50 million British destroyer last week, the vibrations rippled all the way to the Pentagon. The attack on HMS Sheffield followed a lethal new script for naval warfare. It certified a high-tech age of cheap, "smart" weapons like the Exocet missile that can kill from land, sky or sea. And it challenged the long supremacy of bulky surface fleets. A British armada that had steamed out of Portsmouth with all the hoopla of Nelson heading for Trafalgar found itself the bull's-eye in a deadly video game plotted by technicians staring at electronic scopes.

Even as the Sheffield burned, Congress debated financing the first step of the Reagan Administration's \$168 billion plan to turn the U.S. Navy into the world's Great Gray Fleet. Above all, Reagan's Navy counts on massive surface ships. Included on his immediate list are two 90,000-ton nuclear aircraft carriers designed to round out a fleet of fifteen supercarriers able to project U.S. power into the teeth of Soviet defenses. Carrier task forces have policed U.S. crises from Iwo Jima to the waters off Kaddafi's Libya, and their advocates argue that the big flattops are potent, flexible and as indispensable as ever. Says Navy Secretary John Lehman: "Carriers are the only

way to get air superiority over seven-tenths of the earth's surface."

The question is whether a carrier Navy conceived during World War II can survive in an age of high-tech warfare. Any American carrier could ride out several hits by the kind of Exocet that ravaged the aluminum-clad Sheffield. But the U.S. Navy must match itself against a Soviet force that has relentlessly bolstered its fleet with long-range missiles, shore-based bombers and

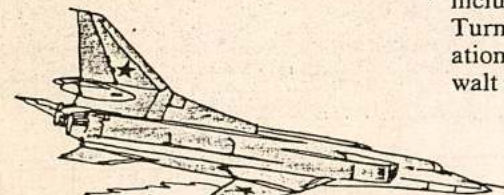
## *In an age of cheap, high-tech weaponry, doubts arise over Reagan's plans for the Great Gray Fleet.*

sophisticated attack submarines—an arsenal largely designed to sink carriers. In the view of some U.S. strategic thinkers, Reagan's plans to build the U.S. fleet around fifteen enormous carriers merely plays into Moscow's hands. These experts are urging the Navy to build a more diverse fleet of smaller ships offering greater strategic options and fewer prime targets. The critics include former CIA director Stansfield Turner and former Chief of Naval Operations Elmo Zumwalt. "In a war," Zumwalt concludes glumly, the unreconstruct-

ed Navy "would have a 35 percent probability of victory and a 65 percent chance of defeat."

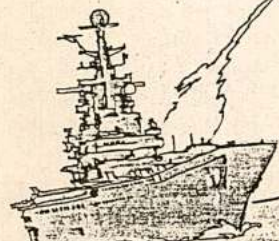
Naval strategists first saw the deadly realities of missile warfare in October 1967, when a couple of small Egyptian boats fired three Soviet-made Styx missiles and sank the 2,550-ton Elath, an Israeli destroyer. The Argentine attack on the Sheffield was more impressive. The French developers of the Super Etendard fighter and Exocet missile used in the attack exulted openly about the "victory for French electronics." British experts added their subdued respect for the new over-the-horizon technology. "What the Sheffield disaster proved is that modern weapons do what most of us have said all along they would do: they hit instead of missing," said Lord Hill-Norton, retired Admiral of the British Fleet. "Gone are the days when you could hang about waiting to see what the other fellow was doing. If you do that, you'll get hit."

The Sheffield should not have fallen easy prey to the Argentine Air Force. The destroyer lacked Britain's best anti-missile system, the Seawolf: it can intercept low-flying missiles flying at twice the speed of sound and has destroyed projectiles as small as 4.5-inch artillery shells. The Sheffield was equipped with 24 Sea Dart missiles designed to shoot down airplanes at ranges of up to 50 nautical miles. The Sea Dart missile should have managed to shoot down the Argentine jet before it launched its Exocet missile that hit the Sheffield



Backfire bombers take off from land base and launch SS-N-3 or SS-N-12 cruise missiles.

Cruise missiles



Kiev-class carrier deploys 60 aircraft and fires SS-N-12 cruise missiles.



More than 200 miles from target Kresta-class cruiser launches surface-to-air and cruise missiles.



Oscar-class nuclear-powered submarine fires up to 24 SS-N-19 cruise missiles with a range of 280 miles.

## SUPERPOWERS AT SEA

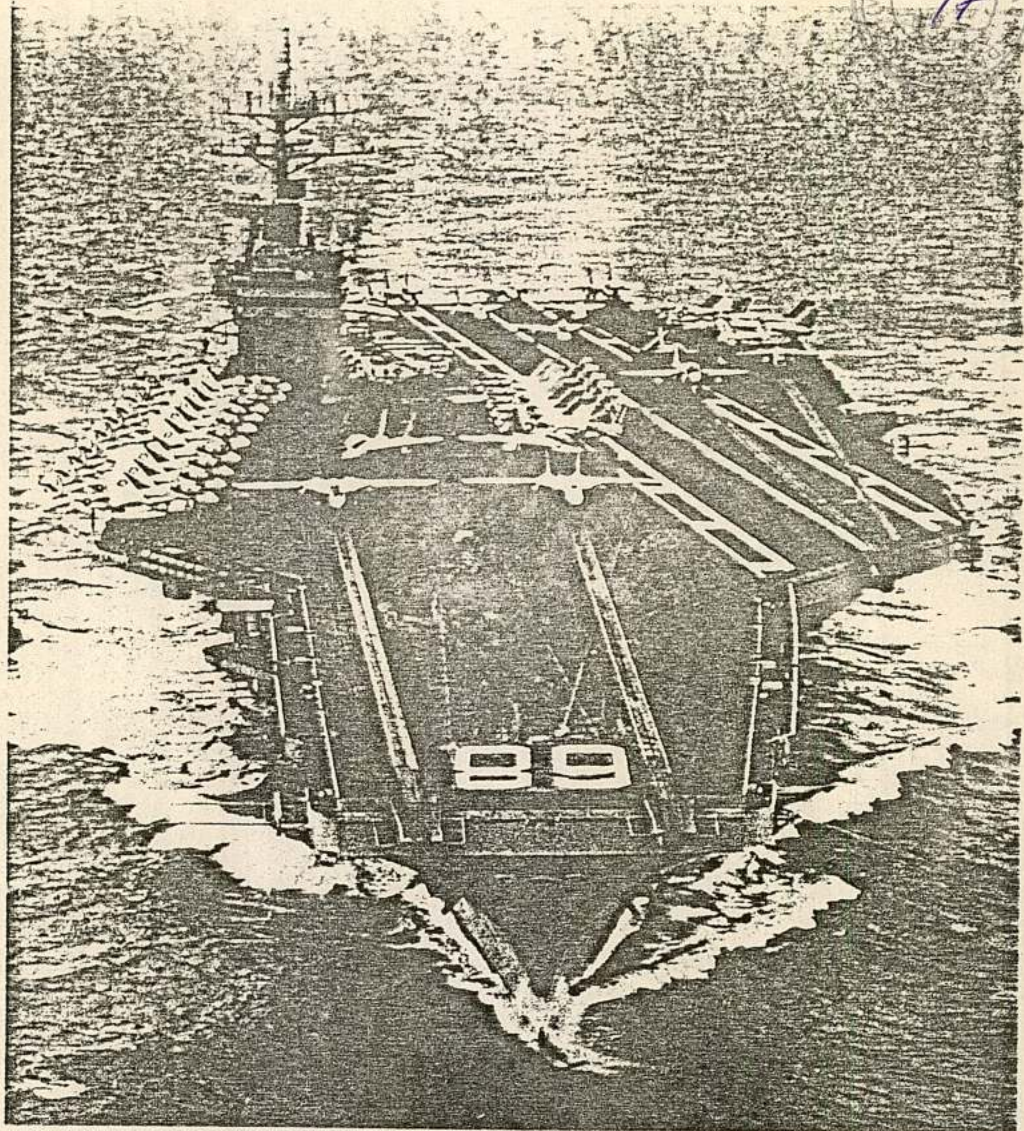
In an attack on a U.S. supercarrier, the Soviets could strike from land, sea and air. The U.S. armada would rely on an array of escort ships and defensive weapons to wipe out the enemy's missiles and torpedoes from a safe distance.



"One way or another [the British] defenses didn't happen to be working very effectively at the time of the attack, and there's a lesson in that," said a Pentagon official. "A ship's defense has got to be at work every minute. The attacker's systems only have to work when he delivers the attack."

The main lesson for American strategists is that the oceans are shrinking. Argentina apparently had no trouble finding the British destroyer alone in the South Atlantic. With little surveillance of its own, the Argentine command may have received tips on British positions from the Soviet Union. Soviet electronic and radar satellites can already track U.S. surface ships with great precision, and Soviet surveillance is improving—a capability that will only make life harder for U.S. admirals. "We're clearly moving to the point where it's going to be possible to track all ships every moment of the day and night," says a Pentagon expert. "As it becomes easier and easier to find ships, they become more and more subject to unexpected attack."

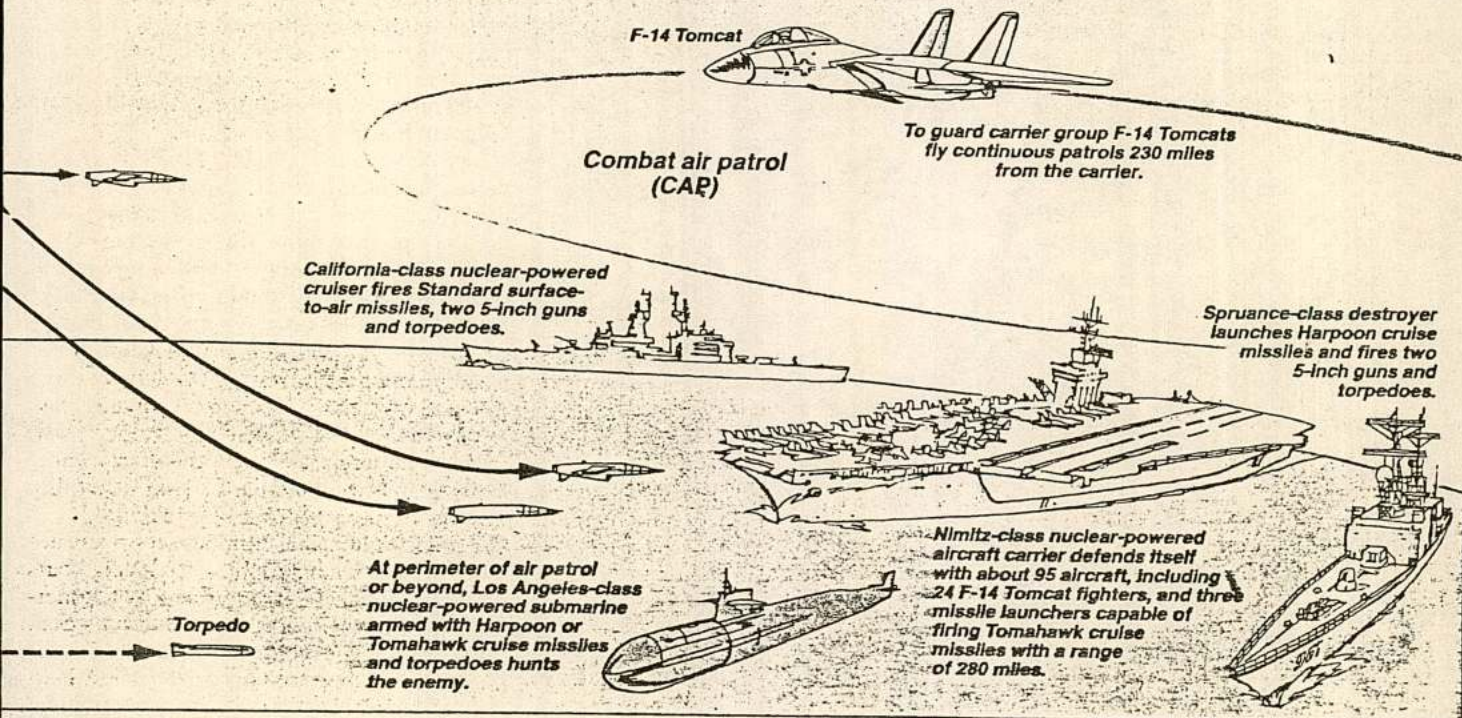
**Usefulness:** A carrier task force is a strategic contradiction: an offensive armada most of whose parts exist to defend itself. But through years of criticism, the carrier has kept on demonstrating its usefulness. In the Korean War, carrier aircraft attacked North Korea after every base in the South was lost. During the cold war, the carrier was a principal nuclear threat aimed at Moscow. In the mid-'60s, Secretary of Defense Robert McNamara decided to let the fleet's 23



U.S. Navy

*The supercarrier Nimitz: A World War II idea sails into an age of high-tech danger*

Ib Ohlsson—Newsweek





## SPECIAL REPORT

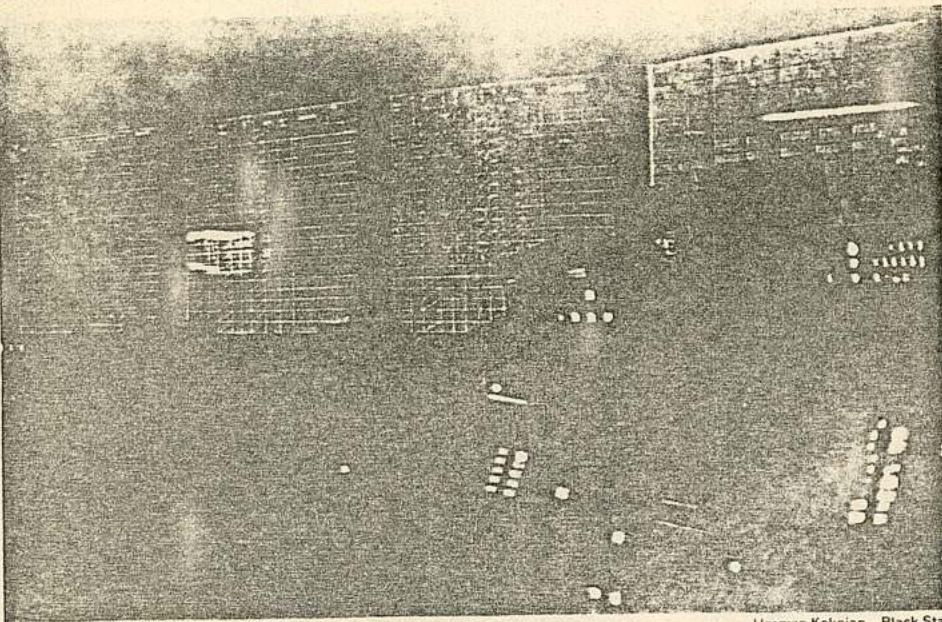
carriers fade away. But two years later McNamara changed his mind and approved the construction of three nuclear-age supercarriers. The deciding factor was the Vietnam experience. "While thousands of aircraft were damaged and hundreds destroyed on land bases by communist guerrillas," observes naval analyst Norman Polmar, "the carriers steamed in the Gulf [of Tonkin] and South China Sea with complete immunity."

So far as Reagan's naval strategists are concerned, the Battle of the Falklands in the South Atlantic further bolsters their all-ahead-full case for a massive naval buildup. Budgeting for the new Navy, Reagan's planners "bought everything in sight," says a former Pentagon official. Even Republican soul mates in Congress rib the Administration's plan to refurbish the old World War II battleships New Jersey, Iowa, Missouri and Wisconsin as cruise-missile platforms. It's "like trying to renew the Army by digging up General Custer," cracks Arizona's Sen. Barry Goldwater. In addition to meeting Moscow's naval threat, Reagan's men envision a fleet that can float an intimidating presence even into unlikely Third World trouble spots. "The whole [Falklands] episode illustrates how a relatively small piece of territory with very few people on it can provoke the need for a rather large-scale military effort," says Presidential counselor Edwin Meese III.

**Patrol:** A carrier task force is awesome in its array of offensive and defensive weaponry. From a supercarrier deck the size of three football fields, as many as 62 F-14 Tomcat fighters, A-6 Intruder and A-7 Corsair attack planes can catapult into flight within seconds of each other. From a continuous air patrol some 200 miles around the ship, E-2C Hawkeye surveillance planes can pinpoint enemy threats over 3 million cubic miles. A protective ring of destroyers, cruisers and other escort ships extends as far as 300 miles from the flagship while hunter-killer submarines prowls below.

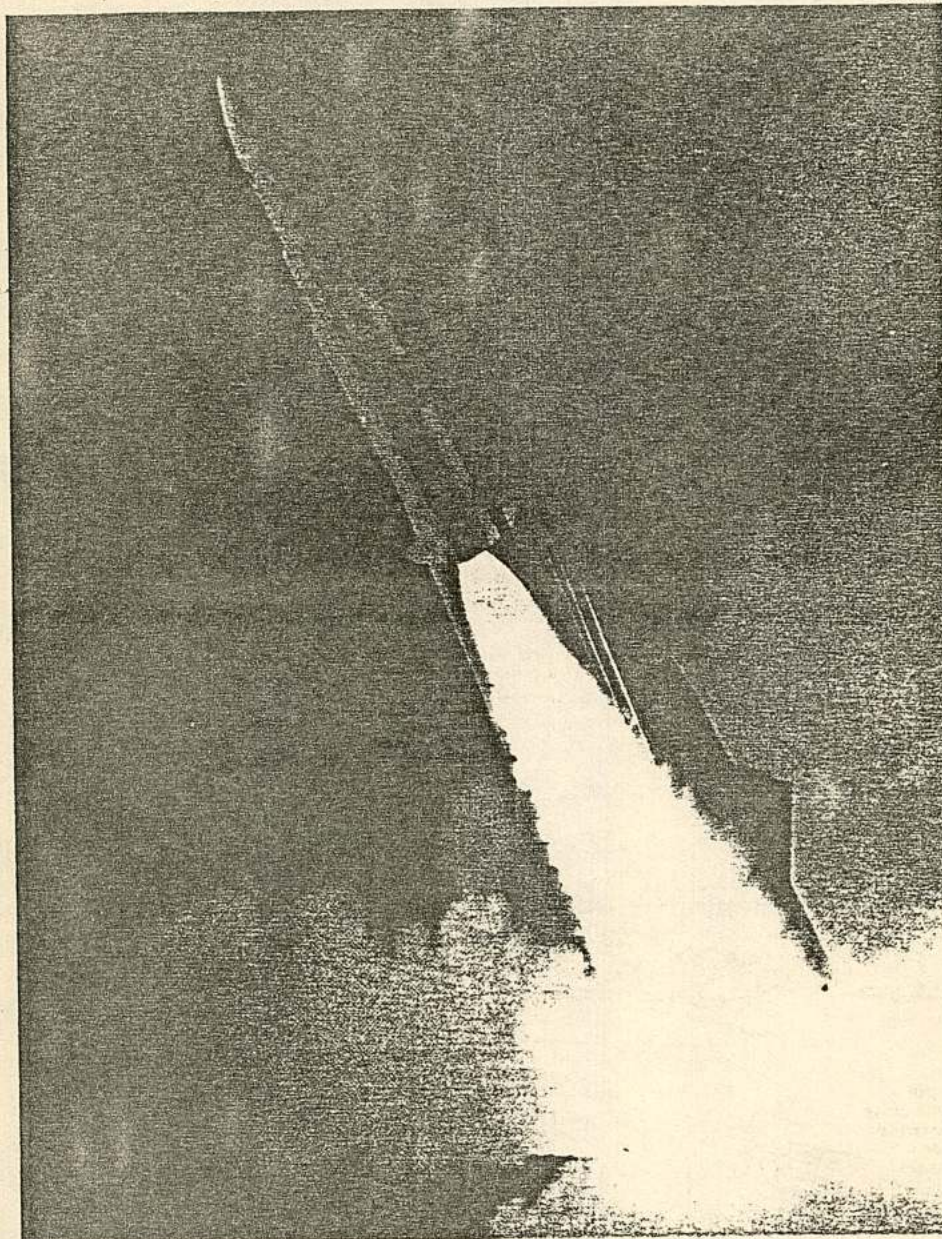
The Navy touts its 90,000-ton carriers as more efficient and thus cheaper to run than the 30,000-ton or 50,000-ton alternatives. A fleet of smaller, more numerous carriers would require the Navy to build more top-of-the-line cruisers and other protective escorts. The smaller carriers would field fewer planes—the smallest flight deck could not accommodate the latest F-14s—at twice the cost. Says Lehman: "Going to smaller, less survivable, less maneuverable, less fast, hardened aircraft carriers that carry fewer aircraft with inherently less capability seems to me to be heading backward."

All the same, the Administration will not win Congressional funding for its big boats without a fight. Leading the big-is-vulnerable lobby is Colorado's Democratic Sen. Gary Hart, who contends that for the price of a nuclear-powered supercarrier, the Pentagon could buy three smaller, conventional



Herman Kokojan—Black Star

*The air-control center aboard the Nimitz, an Aegis missile test: Video-game sea battles, 'smart' weapons and supersonic kills*



U.S. Navy



SPECIAL REPORT

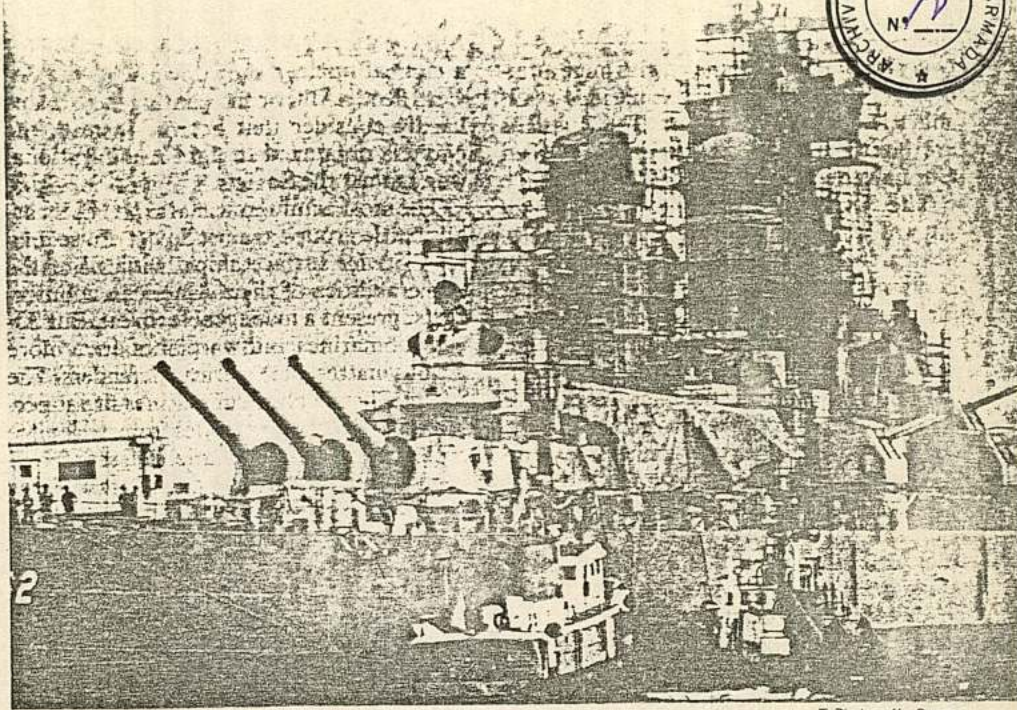
flattops. Hart would trade in a new-generation Aegis nuclear cruiser for two conventional models, and he would augment the fleet of nuclear-attack submarines with smaller, diesel models. Navy Secretary Lehman has ridiculed Hart's efficiency scheme, labeling the little British flattops in the South Atlantic as "Gary Hart carriers." For his part, Hart will try to persuade the Senate to defer one of the two supercarriers up for approval in a vote expected this week. If he loses as expected, says an aide, "we ought to propose that the two new carriers be christened the U.S.S. Belgrano and the U.S.S. Sheffield."

Opposition to a supercarrier Navy goes beyond partisan politics. As a quick fix, Zumwalt endorses plans to infuse the U.S. fleet with conventional long-range cruise missiles. Fitted to submarines, cruisers and the big battleships, the new technology would raise the number of challenges for the Soviet fleet. Zumwalt says he would "build many more and smaller warships for the same cost of a new carrier and its large [missile-] supported ships, thus giving the Soviets the tough chore of localizing and attacking a large number of targets."

**Punch:** The dispersal school predictably attracts some missile manufacturers, including Gen. Jacques Mitterrand, brother of François and president of Aérospatiale, the firm that produces the Exocet. "The significance of the HMS Sheffield attack is that it will make these navies realize once more the importance of smaller vessels," Mitterrand says. "The traditional thinking has been: the bigger the boats, the happier the admirals. But small boats, and even helicopters, fitted with this type of missile, can have the same overwhelming punch of the battleships of 1919, or the carriers of 1943."

Despite its layers of defenses, the carrier remains vulnerable. The vessels themselves are designed with double hulls, 2,000 watertight compartments and elaborate damage-control systems; when a fire and explosions racked the flight deck of the carrier Enterprise in 1969, the crew controlled the damage and could have resumed flight operations within 24 hours. But the big ships are also what Hart calls "floating gasoline stations" of aviation fuel and ordnance. "What disabled the Sheffield was fire," he says, adding that a U.S. carrier "is a bigger, somewhat tougher target just loaded with flammables."

Submarine commanders who have tracked U.S. carriers during naval exercises are almost contemptuous of their prey. Writing in the journal U.S. Naval Institute Proceedings, Comdr. John L. Byron said that the carriers' anti-submarine protection "often resembles Swiss cheese." One high-ranking Pentagon admiral keeps a



T. Zimmeroff—Sygma

The New Jersey coming out of mothballs: 'Like digging up General Custer'

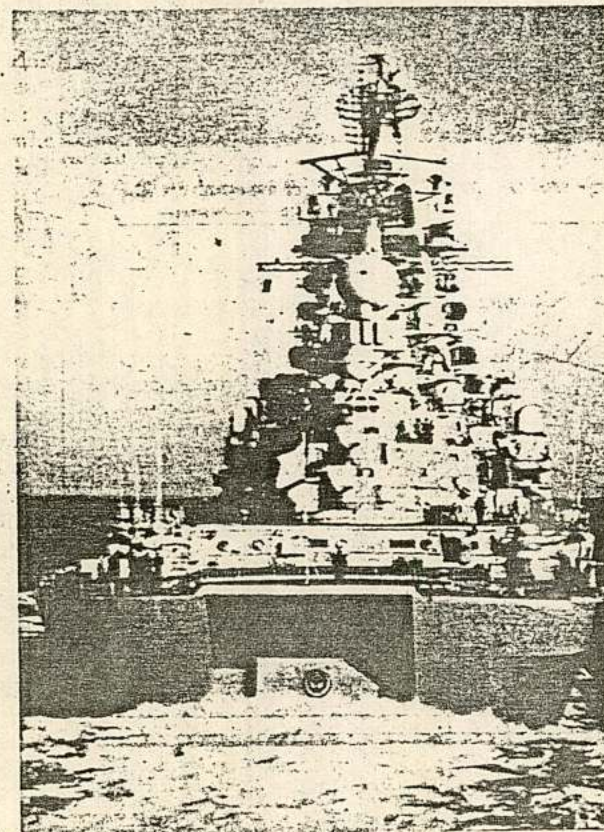
war-game portfolio that argues against a big-carrier navy: a photo collection of carriers lined up in the periscope sights of an attack submarine. "My own experience is that I never had any problem getting a carrier," says a retired submariner. "The submarine community is keeping under wraps on this, but those fleets are going to get ground into peanut butter in a war." Asked at a Congressional hearing how long U.S. nuclear-powered carriers would last in an all-out war, retiring Adm. Hyman Rick-

over answered bluntly: "About two days."

The big carriers are so open to attack that when a show of U.S. power was called for during the Iranian hostage crisis, the Navy refrained from sending a supercarrier into the Persian Gulf. In a published critique, Prof. Thomas H. Etzold of the Naval War College observed that an "unwritten rule" of the Navy's war games "prohibits the sinking of an American aircraft carrier." The big boats are held so sacred, he added, that occasionally "it has been impossible to obtain the agreement of the senior officer in the game merely to put the carrier—or carriers—out of action for a few hours to simulate lesser damage." Says a retired officer: "I was in a war game at the Naval War College, and I put six torpedoes into a carrier, and I was commended—for reducing the carrier's efficiency by 2 percent."

**'Secret':** Two months ago the Navy gave the Senate sea power and force projection subcommittee a glowing report on the supercarriers' performance during Ocean Venture '81, a major exercise in the Norwegian Sea. The Navy stamped as "Secret" a more critical version of events. Reserve Lt. Comdr. Dean L. Knuth, an official analyst of the maneuvers off Norway, wrote in an article banned from publication that, far from commanding events, the carriers had been attacked frequently and effectively by submarines and surface ships. Last week Knuth received a letter instructing him to burn his personal copies of the article. "Aircraft carriers are vulnerable," Knuth says. "And the Soviet

The electronics-laden Soviet cruiser Kirov: Attack



AP



## SPECIAL REPORT

Navy is an anti-carrier navy with huge numbers of both aircraft and submarines available to attack those carriers. The Russians are building at a greater rate than Nazi Germany did preparing for World War II."

The Soviets have amassed a blue-ocean navy of 1,179 ships, the Pentagon estimates, nearly twice the number of the 600-ship Navy planned by Reagan. Moscow's fleet includes 375 submarines, 276 destroyers and cruisers and a new generation of light carriers. The giant Typhoon-class submarine recently joined the fleet, and a U.S.-style catapult carrier appears to be in the works.

**Geography:** While the numbers stack up overwhelmingly against the U.S. Navy, there are some compensating strategic advantages. One important advantage is geography. In the Black Sea Soviet ships are choked at the Dardanelles. The Baltic fleet must negotiate the Skagerrak; the northern fleet must transit the frigid Barents Sea—and any Soviet naval force entering the Atlantic must pass through the gap bounded by Greenland, Iceland and Great Britain. Soviet military planners have partially offset these natural obstacles by gradually acquiring forward operating bases in Angola and South Yemen. The former U.S. bases at Cam Ranh Bay and Da Nang in Vietnam have also helped considerably.

Ship to ship, the United States Navy still holds its own against the Soviet fleet. The U.S. carrier Navy theoretically keeps its strategic mission as a nuclear deterrent

long with America's nuclear submarines. But the carriers must also be prepared for a tactical nuclear showdown with the Soviet fleet. American contingency plans hardly consider that horror. Instead, the Navy is organized to fight a conventional war against the Soviets.

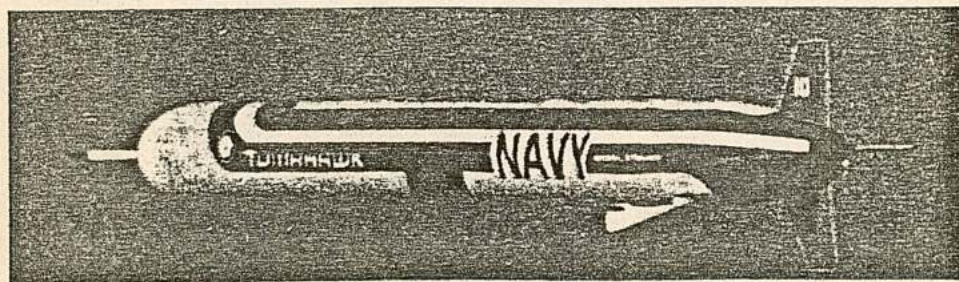
The most common scenario pits U.S. carrier battle groups against Soviet cruise missiles. Soviet surface ships, with all of the vulnerabilities of their American counterparts, present a manageable threat. But Soviet submarines and warplanes are a more serious matter for American defenders. The Soviet Charlie-class submarines fire super-sonic SS-N-7 cruise missiles from a distance of 30 miles—a combination of speed and short range that leaves a U.S. task force virtually no reaction time. The new Soviet Oscar-class subs fire SS-N-19 cruise missiles from as far away as 300 nautical miles, permitting the targeted carriers to react, but complicating the only sure defense against sub-launched cruise missiles: finding and destroying the attack submarine before it can fire. If the Oscars have an Achilles' heel, it is their range: they need surface help to locate their targets. But the Oscars apparently can gather the necessary data from Soviet satellites that so far are immune to U.S. weapons.

The Soviet threat from land-based bombers probably matches the submarine menace. "The submarine is the mugger who steps out of a dark alley and stabs you in the back," says a Pentagon naval expert. "The Soviet naval air force is the motorcycle gang

that roars through town and levels everything." The Backfire is the key anti-ship weapon. The Soviet naval air force deploys 70 Backfires, and adds fifteen more each year. According to the Pentagon, each Backfire can carry at least two AS-4 cruise missiles with ranges of 500 miles and speeds two to three times faster than sound. To ward off the Backfire, U.S. supercarriers soon will be covered by Aegis cruisers armed with Standard SM-2 missiles and Phalanx Mk-15 projectiles. Air defense is also charged to F-14 Tomcats programed to track 24 separate targets and launch six Phoenix missiles simultaneously at a 125-mile range.

**Threat:** What are the chances that a U.S. carrier group could survive a Soviet sea and air attack? "Near zero, unless the Soviets choose to restrain their threat to a relatively small fraction of their forces," says one Pentagon official, who adds that such restraint would be unlike the Soviets. A more realistic Soviet attack, he says, might consist of "50 airplanes launching 100 missiles. That's one day's attack. Tomorrow, you get another one like that." The Administration's theory also suggests that three or four U.S. carrier groups operating together could survive within range of Soviet land-based bombers. But the Soviets would enjoy a lopsided advantage. "The Soviets have several hundred aircraft that are capable of attacking a carrier battle group," says a Pentagon strategist. "When you get in close to the Soviet Union, you're going to suffer attack after attack after attack."

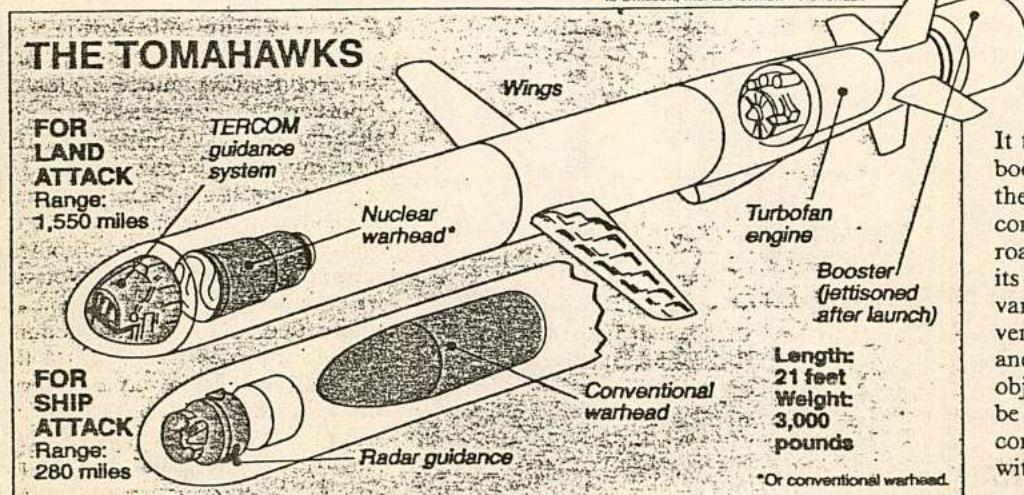
The American fleet's profile should im-



U.S. Navy

Testing a Navy Tomahawk: A long-range stalker to match the Soviet arsenal

by Ohlsson, Marta Norman—NEWSWEEK



## The U.S. Navy's Deadly Equalizer

The Tomahawk cruise missile, the Navy's great equalizer, is a killer riding a computer. Built by General Dynamics, it is only 21 feet long; its range is a maximum 1,550 miles. The missile can fly at 550 miles an hour and it can be launched from land, sea or air. The Navy has chosen to deploy it on surface ships and subs. When fired from a torpedo tube, the missile's booster motor propels it through the water to the surface.

It then rises into the air, jettisons the booster and uses its turbofan engine for the rest of the trajectory. The missile's computer contains a preprogrammed road map to the target, but it can alter its route along the way to adjust for variations in the terrain. Cruising at very low altitudes, it can elude radar and zero in on a fixed or a moving object. The \$3 million Tomahawk can be armed to smash its target with a conventional warhead—or vaporize it with a nuclear blast.



## SPECIAL REPORT

prove within a decade. By then the Navy plans to install some 4,000 Tomahawk cruise missiles on its surface ships and submarines, each with a maximum 280-mile range matching the best in the Soviet naval arsenal. And by then some Washington planners hope the Navy will have scrapped Reagan's contingency scheme for a frontal challenge to the Soviet Union mounted by U.S. carriers. "Why in hell do you fly in an airplane to attack those bases when you can use a missile?" asks retired Adm. Thor Hansen, former director of the Joint Chiefs of Staff. A carrier strategy less preoccupied with facing down the Soviet Navy in its home waters would assign the flattops to protect the oil fields and the sea lanes—and to handle any Third World crisis for which a show of force by even a smaller carrier would make a difference.

Despite the manifest vulnerabilities of the big ships no one expects them simply to vanish. If anything, the job of rapidly projecting U.S. power into remote regions has grown more important as the number of U.S. bases overseas has dwindled from approximately 150 to 30. Just as important, the carrier has become firmly entrenched in naval tradition and bureaucracy. "You've got momentum behind this program that goes back to the '30s and '40s," says Hart. "The carrier was it—the principal capital ship for flag officers, the biggest command afloat, the end of the line for most sea commanders." These days, Hart adds, "you've got the admirals, the aviators and the nuclear Navy all with a piece of the action. And so it goes on and on, year after year."

**Kick:** The Senate will probably give Hart's plea for scaled-down carriers a fair hearing. "I doubt that the moral of the Sheffield story is full-speed ahead on big carriers," says Republican John Chafee of Rhode Island, a former Navy Secretary. "I think there is great merit in building more platforms of smaller size rather than fewer big ones." But the best guess is that despite the budget crunch senators will approve both supercarriers proposed by Reagan. In general, most senators would prefer scraping up the money for one big-deck boat rather than for several small-deck models. Texas Republican John Tower, chairman of the Senate Armed Services Committee, has argued that an infantry division be cut out before a supercarrier. Ohio Democrat John Glenn has finished his own comparison shopping. "You might as well have the big one for the biggest punch," Glenn said. "That is your kick: not just to look nice on paper, but to launch the planes and hit like hell." So far as long as Americans like big ships and big solutions, the supercarrier will have its place at the vanguard of the U.S. Navy. It will enter any conceivable war hitting like hell—unless, of course, the enemy hits harder.

STEVEN STRASSER with DAVID C. MARTIN,  
JAMES DOYLE, MARY LORD and JOHN J.  
LINDSAY in Washington and bureau reports



# The Sheffield Shock

By Adm STANSFIELD TURNER, U.S. Navy, retired

HMS Sheffield was a modern ship of superior design. An attack by a single aircraft and a hit by a single missile ended the ship's life. It is very natural to ask what lessons this teaches us about the future of naval warfare: especially the future of surface ships in navies.

There is nothing surprising in the Sheffield incident from which to draw new conclusions. All naval planners recognize that missile technology is making ships more vulnerable. The issue is: has the time come to replace the surface ship? Military men

protect shipping from attacks by surface ships and submarines but they are of little use against an attacking aircraft. Land-based aircraft can help, too, but not in situations like the Falkland Islands where no British base was close enough for land-based aircraft to be able to enforce the blockade in which the Sheffield was engaged.

We maintain military forces primarily to engage in wars overseas, surely not because of concerns with Canada and Mexico. We must, therefore, be able to move forces across oceans. We must also be able to base forces like aircraft carriers and amphibious forces on the seas when shore bases will not be available in a region of conflict. The British requirement to use force in as distant an area as the Falklands is one example, if an extreme one. Our limited capability to project military power into the Persian Gulf region today is another.

**Vulnerability:** The lesson of the Sheffield is that because there is no substitute yet in sight we cannot dispense with surface ships like aircraft carriers, amphibious assault ships and destroyers even though they are vulnerable. What we must do instead is to examine what vulnerability means for how we design and operate such ships. Historically, field commanders have shied away from placing a vulnerable system at risk in situations where it might be defeated. The Battle of Jutland in World War I is one example. Both the British and the German admirals had the bulk of their battleships on the scene. Each foresaw the consequences of losing those ships as severe. As a result they engaged only halfheartedly and the results

U.S. Navy

A U.S. nuclear sub: Close work around Soviet bases

typically cling to outmoded weapons systems. Yet when the time comes for them to replace a weapon, it is not just because that weapon has become vulnerable. A better weapon must also be available. Whether it be with cavalry, battleships or surface ships, the problem is to determine when the new weapon has arrived and when the old can be discarded safely.

The replacement for the surface ship is not yet in sight. Why? Because a maritime nation like the United States must transport large quantities of goods and raw materials to and from its shores, and for the foreseeable future that must be done in surface ships. Neither submarines nor aircraft can deliver the volumes required. If we must utilize surface merchant ships, we must be able to protect them. Submarines can help

were inconclusive. Similarly, the United States refrained from sending even one of its twelve supercarriers into the Persian Gulf during the Iranian crisis of 1979-81.

How can we avoid overcautiousness in war engendered by concern for vulnerability? We can build lots of surface ships and anticipate that there will be losses, or we can try to equip them to defeat the missile threat. Our Navy's response today is to try to reduce vulnerability by building ships that are larger and more rugged. The two supercarriers that are in the President's budget request currently before the Con-

Turner was commander in chief of allied forces in Southern Europe from 1975-1977 and director of the Central Intelligence Agency under President Carter.



## SPECIAL REPORT

gress, and which cost \$3.4 billion each, are the key examples.

The Sheffield case points out how difficult it is to harden a surface ship so that it can weather missile attacks. The extent of damage to the Sheffield was far greater than one would expect from a single missile. We must surmise that it chanced to strike some vulnerable point that ignited a chain reaction of destruction. If a destroyer has even one such sensitive point, an aircraft carrier has many of them. Many of the vulnerable points on a carrier—aviation fuel lines, bombs and planes loaded with fuel on the flight deck—cannot possibly be hidden behind defensive shielding. We once armored

not pilots in areas where heavy air defenses exist because the loss rates would just be too high.

Another theory is that the large carriers will defeat the missile threat by carrying the fight right to the enemy's bases and bottling up or destroying his fleet. The problem with this strategy is that it ignores the emergence of a highly capable Soviet Navy, which has emphasized missiles for attacking surface ships. The Soviet Navy should at least be credited with an ability to make life very tough for intruders in its backyard. Whatever work we do close to Soviet naval bases will have to be done with submarines or with aircraft carrying long-range missiles, not with surface-ship aircraft carriers. Despite the Navy's talk in this direction, it is

Dispersing our sea-based air power as widely as possible prevents a crippled carrier from tying up too many aircraft and makes it more likely that a carrier will be where it is needed. Added numbers of ships aid defense against missiles because there will be more layers of advanced warning, more ships to confuse an enemy's targeting and more opportunities to decoy his missiles.

Unfortunately, some naval thinkers are distorting the example of the Sheffield into an argument for more large carriers. That would lead to a smaller number of ships in our Navy. They are contending that if the British had only had a large carrier on the scene instead of a small one, the Sheffield might have been protected. This might well be true, but it is specious to draw the conclusion that we should therefore build more supercarriers.

The supercarriers the President is requesting will not be ready to go to sea and do battle for about a decade. They may well be part of our fleet out into the 2020s. How can we measure the value of what might be available to us in such a distant future by what it might have been able to do in the South Atlantic last Tuesday? Surely responsible officials owe it to the American taxpayer to judge how well large carriers are likely to meet the nation's needs over the course of their lifetimes.

**Weapons Evolution:** The whole history of warfare is littered with cases of military planners preparing for yesterday's battles. What is seldom noticed is how a popular weapon steadily evolves from a simple one to such a complex one that it is found wanting when tested in actual warfare. In the case of the aircraft carrier, it is difficult for us to appreciate that it has been in evolution for over 50 years now. Many of us spent

U.S. Navy

*Piggyback power: The U.S.S. Pegasus, a patrol hydrofoil, fires a Harpoon anti-ship missile*

the sides of our battleships, but at Pearl Harbor they were sunk by bombs through the decks, not the sides. We should not follow that battleship folly once again, especially since the new missiles are becoming so accurate that they can be guided to the specific points of greatest vulnerability.

It is also difficult to believe that lots of heavy, sophisticated aircraft on large aircraft carriers will defeat the missile threat. One theory is that only such aircraft can reach out to warn of impending attack and destroy the attacking aircraft, ship or submarine before it launches its missiles. Those are, indeed, necessary functions. Technology is making it possible to perform each of them with systems other than large aircraft: reconnaissance with satellites, land-based AWACS early-warning aircraft and unmanned drones; attack with unmanned missiles, as in the case of the Sheffield. It has long been evident that our Air Force and Navy are not going to com-

hard to think that any admiral would seriously recommend exposing our carrier forces only a few hundred miles from the seats of Soviet sea power.

If building surface ships rugged enough to absorb missile hits, or powerful enough to diminish the missile threat substantially, is bucking the trends of technology, the other possible solution is to build more, less expensive ships and anticipate some losses. This may sound defeatist, but it is not. When a navy has \$3.4 billion invested in one ship, two results will follow. First, there will be caution in committing such ships in risky situations. Second, when they are committed, the amount of effort employed in just protecting them is bound to detract from their basic mission. An ability to face the possibility of loss is important to freeing up a field commander's initiative.

Besides, there is good reason to believe that lots of small aircraft carriers can survive just as well as a few supercarriers.

our whole Navy careers in a new Navy that was born Dec. 7, 1941, when the carrier superseded the battleship as the heart of our naval power. It is not easy to break with such thinking and tradition.

It would be a shame if the human tragedy of the Sheffield falsely led us to perpetuate a dying form of naval warfare. If it did, we might face a future national tragedy of being unprepared. Let us hope that historians look back one day and say that one of the consequences of the sinking of the Sheffield was to focus thought on the growing vulnerability of surface ships; on the idea that future surface ships must not just be larger and more complex versions of today's, but ships that take advantage of new technologies; and on dispersing our Navy, and especially its air power, into more numerous, smaller platforms. If the loss of the Sheffield does help point us toward such a naval strategy for the 21st century its sinking will not have been in vain.



ESCUELA DE GUERRA NAVAL

TACTICA



INFORMACIONES DEL AGREGADO EN WASHINGTON

..(6 de Mayo 1982)







Informaciones del Agregado en WASHINGTON

ASUNTO: 1. COMENTARIOS SOBRE LA ACTUALIDAD NORTEAMERICANA

Como se preveía, la posición norteamericana en la crisis de las Malvinas ha salido perjudicada, principalmente en este continente. Si ya los esfuerzos de mediación del Secretario de Estado Haig, no se veían claramente neutrales desde el principio, la toma de posición posterior a favor de Gran Bretaña y las reiteradas manifestaciones de apoyo a este país tanto por la Administración como por importantes líderes del Congreso, hacen difícil a partir de ahora que los países centro y sudamericanos - en especial los de origen ibérico- puedan confiar en los EE.UU. y creerse la propaganda a favor de una política hemisférica.

En este sentido se han expresado varios países hispanoamericanos que han visto el texto del Tratado de Río "como papel mojado". Y el plan de ayuda para el Caribe, que ya tropezaba con dificultades en el Congreso, tiene pocas posibilidades de salir adelante tras los últimos acontecimientos.

Argentina era uno de los apoyos con los que EE.UU. contaba para luchar contra las subversiones en Centroamérica. Venezuela, por su parte, podría haber actuado como importante mediador en las diferencias de EE.UU. con Nicaragua. Y Cuba, que para algunos estaba cambiando de rumbo político y tratando de iniciar un acercamiento hacia los norteamericanos, puede salir beneficiada en su tradicional postura antiyanqui.

Algunos comentaristas y especialistas en el tema ven que a EE.UU. solo le queda, como posible camino para recuperar alguna confianza de sus principales vecinos del sur, el invertir enormes sumas de dinero a través de Organismos internacionales como pudiera ser el Banco Interamericano de Desarrollo.

Como ya se comentó hace días, es difícil de comprender el brusco y claro cambio oficial de la política norteamericana en esta crisis tras las reiteradas manifestaciones del Presidente Reagan y de su Administración en favor de una política hemisférica, de un planteamiento más realista frente a países con regímenes militares y de un frente común anticomunista y antisubversivo.

.../No hay duda...



No hay duda de que los lazos de este país con Gran Bretaña son muy fuertes; que para Reagan era poco menos que imprescindible el sostener en el poder al Gobierno de la Sra. Thatcher; que Inglaterra es el único aliado absolutamente fiel en Europa -con este Gobierno conservador actual-; y que hay por medio importantes negocios de ventas de armas, como el Trident II. Pero parece que los cálculos no han salido bien. Argentina podrá ser considerada agresora; pero una política realista en la que entran en juego previsiones para futuros próximos y más lejanos debería, quizás, haber llevado a EE.UU. al menos a mantenerse en una situación más ambigua.

En cuanto a comentarios escuchados de parte Argentina o simpatizantes con ese país, son de destacar las justificaciones del ataque inicial, según las cuales Buenos Aires habría tenido noticias de la pretensión británica de conceder ya la autonomía o una cierta autodeterminación a los isleños, lo que hubiera puesto en una situación más difícil negociadora a Argentina.

El ataque a las Georgia del Sur puede haber sorprendido en algún grado a los argentinos, como sugirió su Embajador en este país, pues aunque sí se esperaba que la primera acción fuera sobre esas islas, sin embargo las mediaciones y conversaciones en marcha podrían haber hecho pensar a Buenos Aires que la flota inglesa retrasaría el inicio de sus acciones en el Atlántico Sur.

La prensa norteamericana ha difundido la noticia de la salida a la mar de la flota uruguaya para vigilar los accesos al río de la Plata. Al parecer, es la primera vez en muchos años que todos los barcos uruguayos salen a la mar juntos. De acuerdo con la tradicional postura a favor de Argentina, podría interpretarse esa decisión como de apoyo a este país que tiene toda su flota destacada en el sur.

Otros comentarios oídos se refieren a la supuesta salida a la mar de la flota chilena que habría tomado posiciones en los canales del extremo sur americano. Esta acción se interpretaba como defensiva frente a Argentina la cual, si salía derrotada en las Malvinas, podría distraer la atención interna hacia los territorios en disputa con Chile. También se comenta que un buque de apoyo logís-

.../tico que los...



tico que los chilenos habían adquirido en Gran Bretaña y que navegaba con dotación británica ya en aguas argentinas hacia Chile, recibió la orden de incorporarse a la flota inglesa suspendiéndose la entrega al país de destino.

En cuanto al Crucero "Belgrano", la televisión norteamericana ha insinuado que su misión en el momento del ataque era dirigirse a las Georgia y realizar un ataque sorpresa volviendo a ocupar las islas. Esta suposición contrasta con la más generalizada de que, debido a su escaso valor operativo -y para evitar la desmoralización de la dotación si continuaba el barco en puerto- el gobierno argentino decidió enviarlo al extremo opuesto a la flota inglesa, fuera del área de bloqueo.

Como ya se conocerá ampliamente en España, el hundimiento del crucero ha provocado fuertes reacciones contra Gran Bretaña, ha debilitado la posición reivindicativa de este país, y como mínimo ya es considerada igual de agresora que Argentina. La prensa norteamericana, fanáticamente pro-británica, empieza a hacerse eco de protestas contra la tesis inglesa y aparecen algunos comentarios que pueden considerarse favorables a Argentina. Y el hundimiento del "Sheffield" -que los argentinos consideran como una operación maestra-, ha removido algo las conciencias respecto a lo que está pasando y aún puede pasar en el Atlántico Sur.

En estos momentos varios planes de paz están en estudio y parece que ambas partes desean el cese de hostilidades y llegar, al menos, a la mesa de negociaciones. Si algunos acusaban de intransigente al Gobierno argentino, parece que tienen que empezar a reconsiderar unos juicios muy subjetivos y escasamente ponderados ante la tozudez británica de resolver la cuestión con la exclusiva mediación norteamericana evitando el planteamiento en organismos internacionales como la ONU donde, a la vista de las firmes posiciones sudamericanas y socialistas del Este, y la ya cambiante actitud de los aliados europeos, puede tener perdido su planteamiento de la crisis.

#### POLITICA ECONOMICA

Continúan los debates sobre el Presupuesto General para el AF 83. Tras la "rotura" entre el Presidente Reagan y el Congreso, por diferencias en cuanto a recortes, impuestos y déficit tolerable,

.../parece que...



parece que ayer se llegó a un principio de acuerdo según el cual la Administración aceptaría un incremento progresivo en las tasas a lo largo de tres años para ingresar unos 95.000 M.\$ más de lo previsto inicialmente; se reducirán los beneficios de la Seguridad Social en 40.000 M.\$ en esos tres años; se tolerará un déficit para AF83 de 105.000 M.\$; y se retocarán los capítulos de Defensa en relación con lo propuesto por la Administración, aunque en cantidades muy pequeñas.

#### POLITICA DE DEFENSA

Tras su pase por los Comités especializados, el Senado inició el día 3 de Mayo sus debates sobre el proyecto de Ley de autorización de gastos de Defensa para AF 1983. El proyecto llega a la Cámara con una propuesta de reducción de unos 3.000 M\$ respecto a lo solicitado por el Presidente Reagan. (184.000 M.\$ aprox.)



# Text of O.A.S. Resolution on the Falkland Islands

Special to The New York Times

WASHINGTON, April 28 — Following is the text of the resolution on the Falkland Islands adopted by the Organization of American States today by a vote of 17 to 0:

THE TWENTIETH MEETING OF CONSULTATION of ministers of foreign affairs,

CONSIDERING the principles of inter-American solidarity and cooperation and the need to find a peaceful solution to any situation that endangers the peace of the Americas,

THAT a dangerous confrontation has arisen between the United Kingdom of Great Britain and Northern Ireland and the Argentine Republic, which was aggravated today by the events arisen from the presence of the British Navy in the South Atlantic, within the security region referred to in Article 4 of the Rio Treaty,

THAT the primary purpose of the Inter-American Treaty of Reciprocal Assistance is the maintenance of the peace and security of the hemisphere, which, in the case that has arisen, requires ensuring the peaceful settlement of the dispute,

THAT to facilitate peaceful settlement of the dispute, it is urgent that hostilities cease, since they disturb the peace of the hemisphere and may reach unforeseeable proportions,

THAT it is an unchanging principle of the inter-American system that peace be preserved and that all the American states unanimously reject the intervention of extracontinental or continental armed forces in any of the nations of the hemisphere,

THAT Argentina's rights of sovereignty over the Malvinas (Falkland) Islands, as stated in some important resolutions passed by various international forums, including the Declaration of the Inter-American Juridical Committee on Jan. 16, 1876, which states: "That the Republic of Argentina has an undeniable right of sovereignty over the Malvinas Islands," must be borne in mind,

THAT the peace efforts being made with the consent of the parties must be emphasized and that inter-American solidarity contributes to that objective,

HAVING SEEN Resolution 502 (1982) of the United Nations Security Council, all of whose terms must be fulfilled; Resolution 359 of April 13, 1982, adopted by the Permanent Council of the Organization of American States

and the declaration adopted unanimously by the ministers of foreign affairs at the opening session of the Twentieth Meeting of Consultation (DOC.14/82), and in conformity with the Inter-American Treaty of Reciprocal Assistance,

RESOLVES:

1. To urge the Government of the United Kingdom of Great Britain and Northern Ireland immediately to cease the hostilities that it is carrying on within the security region defined by Article 4 of the Inter-American Treaty of Reciprocal Assistance, and also to refrain from any act that may affect inter-American peace and security;

2. To urge the Government of the Republic of Argentina likewise to refrain from taking any action that may exacerbate the situation;

3. To urge those Governments immediately to call a truce that will make it possible to resume and proceed normally with the negotiation aimed at a peaceful settlement of the conflict, taking into account the rights of sovereignty of the Republic of Argentina over the Malvinas (Falkland)

Islands and the interest of the islanders;

4. To express the willingness of the Organ of Consultation to lend support, through whatever means it considers advisable, to the new initiatives being advanced at the regional or world level, with the consent of the parties, which are directed toward just and peaceful settlement of the problem;

5. To take note of the information received about the important negotiations of the Secretary of State of the United States of America and to express its wishes that they will be an effective contribution to the peaceful settlement of the conflict;

6. To deplore the adoption by members of the European Economic Community and other states of coercive measures of an economic and political nature, which are prejudicial to the Argentine nation and to urge them to lift those measures, indicating that they constitute a serious precedent, inasmuch as they are not covered by Resolution 502 (1982) of the United Nations Security Council and are incompatible with the Charters of the United Nations and of the O.A.S. and the General

Agreements on Tariffs and Trade (GATT);

7. To instruct the President of the Twentieth Meeting of Consultation to take immediate steps to transmit the appeal contained in operative paragraphs 1, 2 and 3 of this resolution to the Governments of the United Kingdom of Great Britain and Northern Ireland and of the Republic of Argentina, and also to inform them, on behalf of the foreign ministers of the Americas, that he is fully confident that this appeal will be received for the sake of peace in the region and in the world;

8. To instruct the President of the Twentieth Meeting of Consultation immediately to present this resolution formally to the President of the United Nations Security Council so he may bring it to the attention of the members of the council;

9. To keep the Twentieth Meeting of Consultation open, especially to oversee faithful compliance with this resolution, and to take such additional measures as are deemed necessary to restore and preserve peace and settle the conflict by peaceful means.



## 2. URSS.- SATELITES MILITARES OBSERVAN LA CRISIS DE LAS MALVINAS.

A finales de la semana pasada la Unión Soviética lanzó su noveno satélite para vigilar las actividades en la zona de las Malvinas.

El "Cosmos 1355", conocido en EE.UU. como "EORSAT", fue lanzado el jueves 29 de abril desde el Cosmódromo de Baikonur. Este satélite es del tipo de reconocimiento e inteligencia electrónica oceánica.

El 31 de Marzo, dos días antes de la invasión Argentina, los soviéticos lanzaron dos satélites de inteligencia, el "Cosmos 1345" de vigilancia radar, y el "Cosmos 1346" de inteligencia electrónica.

El día de la invasión, 2 de Abril, lanzaron el "Cosmos 1347" de vigilancia y reconocimiento fotográfico de alta resolución.

El 16 de Abril, se lanzó el "Cosmos 1350" de reconocimiento fotográfico de alta resolución, y capaz de larga permanencia en el espacio.

Otro satélite de exploración radar, el "Cosmos 1351" fue lanzado el 21 de Abril desde las instalaciones de Kapustin Yar, en el río Volga; y el mismo día, desde Plesetsk, se puso en órbita el "Cosmos 1352", son sistemas de reconocimiento y vigilancia fotográfica de resolución media.

El 23 de Abril fue lanzado otro satélite del mismo tipo. Por último, el "Cosmos 1354" de escucha de comunicaciones, fue lanzado el 28 de Abril.

Se desconoce la veracidad de las noticias que apuntan a un trasvase de información de parte soviética a la argentina, obtenida por estos satélites.



ESCUELA DE GUERRA NAVAL

TACTICA



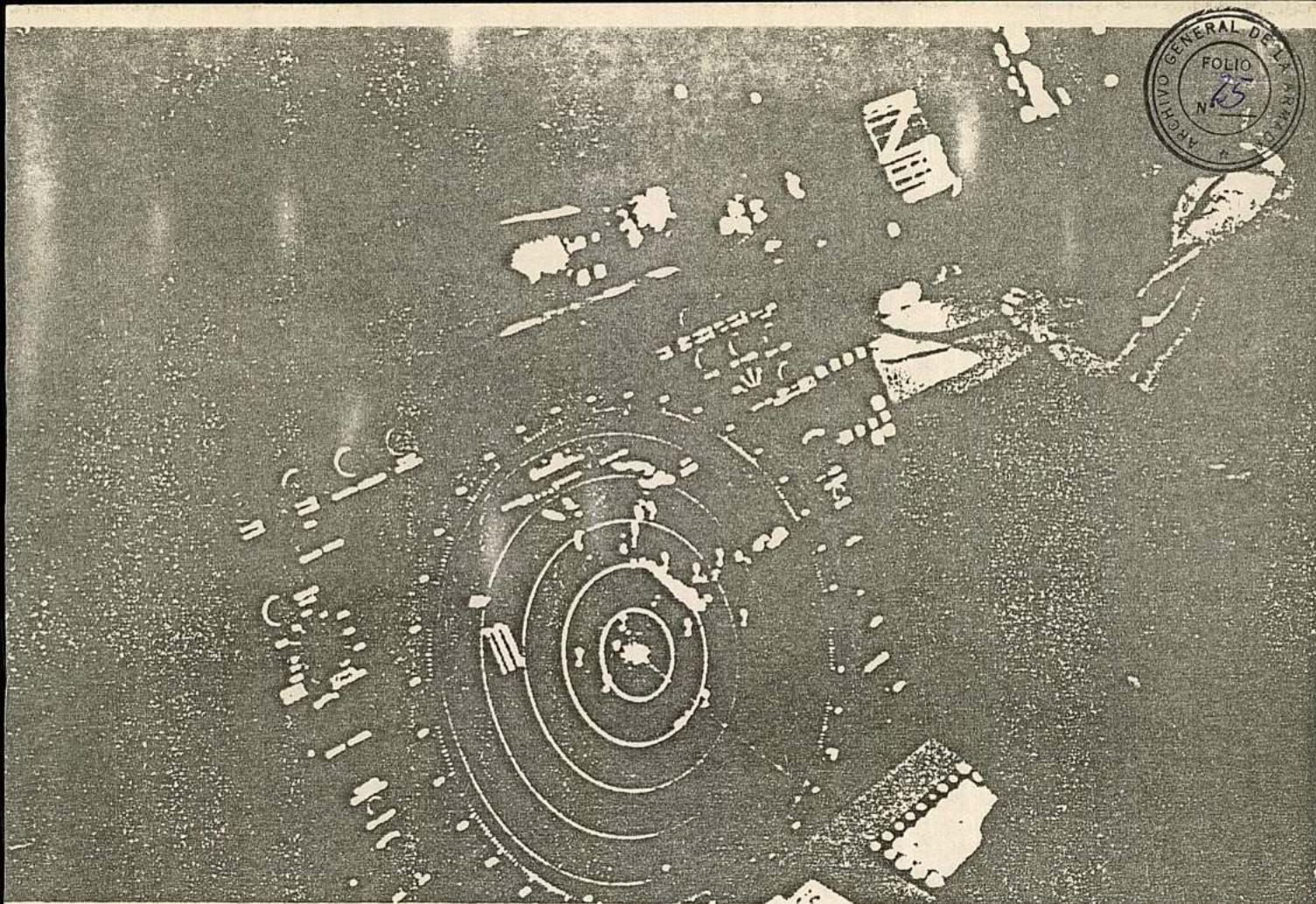
LA PROVA DEL FUOCO

(Panorama 24 MAY. 82)









**Panorama**

## DOSSIER

FALKLAND: NUOVE TECNOLOGIE MILITARI/1

# La prova del fuoco

di Chiara Sotlocorona

*Sembrava una guerra da operetta. Invece la stanno studiando tutti: dai mercanti di armi agli Stati maggiori delle superpotenze. Il conflitto anglo-argentino sta rivoluzionando alcuni fondamentali principi di tattica e strategia. Gli Stati Uniti per esempio...*

**I**l pilota gettò lo sguardo sullo schermo incorporato nel suo pannello di comando. Le unità della flotta inglese erano tutte sotto i suoi occhi, punti luminosi e scie di luce che apparivano e scomparivano. Ma lui non poteva essere visto. Volava a 60 chilometri di distanza da quelle navi e sapeva

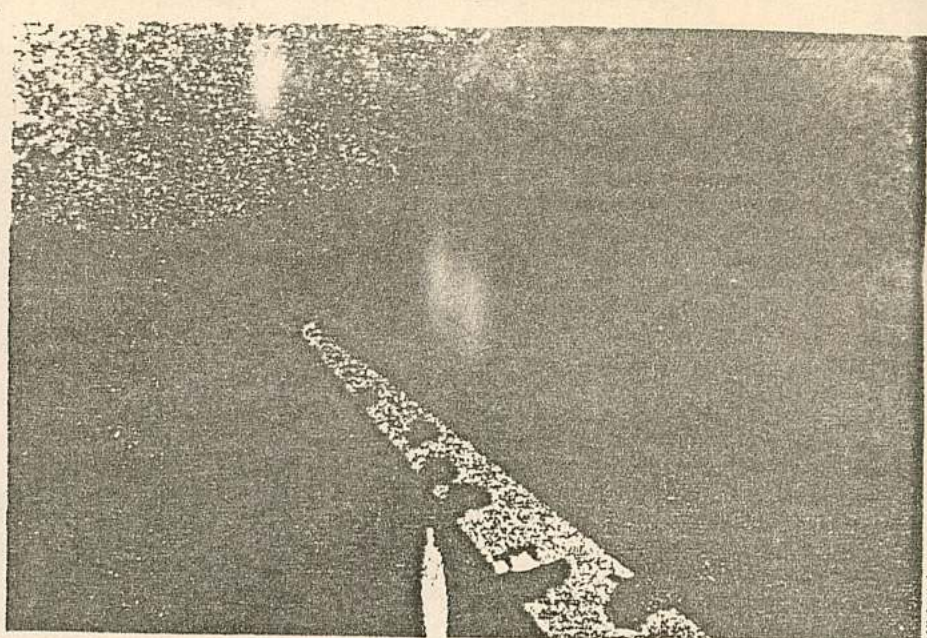
che gli inglesi non avevano in volo aerei abbastanza potenti per individuarlo.

Era il « momento OK ». Schiacciò il pulsante del « lock-on » (aggancio del bersaglio), perché il computer programmasse la sua arma. Ormai, bastava lanciare: era fatta. Il missile aveva la sua rot-

ta da seguire, viaggiando a pelo dell'acqua per non farsi scorgere dai radar nemici avrebbe raggiunto la zona calda, e negli ultimi dieci chilometri la testa programmata dal radar l'avrebbe portato dritto sull'obiettivo.

Così, martedì 4 maggio, uno dei giorni cruciali della crisi delle Fal-





*A sinistra, la sala di controllo di un centro operativo. Sopra e a destra simulazione di un combattimento ottenuta usando il calcolatore*

kland l'Exocet AM39 lanciato dagli argentini, ultimo modello di una categoria di missili chiamati « fire and forget » (spara e dimentica), ha fatto colare a picco il modernissimo cacciatorpediniere inglese Sheffield da 4.100 tonnellate, orgoglio della Royal Navy. Con questa ritorsione immediata, l'Argentina, che aveva appena perso l'incrociatore General Belgrano, non ha dato solo una dimostrazione di forza. Lanciando al battesimo del fuoco i nuovissimi Super-Etendard, aerei di fabbricazione francese armati di Exocet, aveva ottenuto un risultato: dimostrare all'Inghilterra e al resto del mondo che in quanto a tecnologia i sudamericani non erano da meno.

Quel giorno quella che a molti sembrava una guerra d'altri tempi (una spedizione lontana, l'orgoglio dei marinai, gli ammiragli alla Nelson) si è rivelata invece un test di cruciale importanza per i sistemi di combattimento degli anni 80.

Al conflitto tra Inghilterra e Argentina guardano, con estremo interesse (e anche con i più incredibili sistemi di spionaggio), anche

le parti non direttamente coinvolte: le grandi potenze, gli Stati maggiori, gli esperti di strategie, persino i commercianti di armi, o le industrie produttrici, che molto spesso per la prima volta vedono collaudati, con effetti tragici, i loro « prodotti ». « È un test macabro, se vogliamo, ma importante per tutti » ha detto un esperto inglese di armi navali « che segnerà una svolta nella storia bellica: è, questa, la prima vera guerra dalla fine del secondo conflitto mondiale. La prima guerra programmata a tavolino, guidata dai computer, eseguita da uomini che sono diventati macchine e che manovrano macchine sofisticate e sempre più perfezionate.

Gli storici e gli strateghi amano oggi ricordare che, come la guerra civile spagnola fu il banco di prova per gli armamenti del successivo conflitto mondiale, così la guerra delle Falkland sarà ricordata come la sala collaudo dell'armamento più aggiornato.

Gli inglesi Sea Harrier, caccia bombardieri a decollo verticale, si stanno dimostrando estremamente manovrabili. Possono fermarsi in volo, girarsi in pochi istanti e cabrare velocemente evitando l'im-

patto con un missile nemico (ma il loro limitato raggio d'azione - 288 miglia - e la loro contenuta velocità - 736 miglia - li rendono inadatti a operazioni di vasta copertura della flotta).

Il siluro Tigerfish MK24 usato dal sommergibile nucleare Conqueror per affondare l'incrociatore argentino General Belgrano è caratteristico della nuova generazione di armamenti. Costruito in Gran Bretagna, ha un raggio d'azione di 20 miglia. Una volta lanciato, corre verso il bersaglio alla velocità di 58 miglia orarie ed è guidato da un computer installato a bordo del sommergibile. Nella fase finale dell'attacco, quando il computer ha stabilito che il siluro ha ormai individuato con esattezza l'obiettivo, si inserisce un sistema di puntamento automatico.

Gli inglesi hanno utilizzato anche un'altra nuova arma per af-





Il missile francese Exocet simile a quello che ha affondato lo Sheffield

## Come si poteva salvare lo Sheffield

**L'**affondamento nelle Falkland del cacciatorpediniere inglese Sheffield ha dimostrato che anche la guerra elettronica ha i suoi talloni d'Achille. Quali? *Panorama* l'ha chiesto allo studioso David Rosser-Owen del Royal United Service Institute for Defence Studies, emanazione del ministero della Difesa inglese.

**Domanda.** Che cosa non ha funzionato nel caso dello Sheffield?

**Risposta.** Non si è trattato di mancato funzionamento, ma di deficienze di equipaggiamento. Lo Sheffield aveva due radar: uno d'avvistamento aereo e un altro per la sorveglianza del mare. Ambedue sono limitati nel loro raggio d'azione dalla linea dell'orizzonte: gli impulsi radar viaggiano in linea ret-

ta e non possono seguire la curvatura del pianeta. Tutto quello che si trova al di sotto dell'orizzonte sfugge al controllo.

**D.** Ma anche l'aereo, per indirizzare il missile, deve localizzare la nave mediante radar. Non deve quindi affacciarsi necessariamente sopra l'orizzonte?

**R.** Ma gli aerei argentini conoscevano già esattamente la posizione dello Sheffield grazie alla segnalazione di un aereo da ricognizione ad alta quota, probabilmente un vecchio « Tracker » americano. Gli Etandard si sono quindi alzati sopra l'orizzonte solo per una frazione di secondo, per puntare automaticamente i missili e « spararli ». E una volta sparato, il missile si guida da solo.

**D.** Che cosa può fare una nave per evitare il missile in arrivo?

**R.** Innanzitutto bisogna dire che la cosa migliore è potere abbattere l'aereo nemico prima che sganci il suo missile. Una volta, però, che il missile nemico è stato sgancia-

to, non ci sono che tre possibilità: 1) individuare il missile in arrivo in tempo per poter contrattaccarlo con un missile anti-missile. 2) Usare il « jamming » per confondere il radar che guida il missile. Si immettono cioè frequenze identiche in modo che al radar del missile non arrivi nessuna traccia della nave. Ma questo richiede che si conosca in anticipo la frequenza con cui funziona il radar del missile nemico. 3) L'impiego di « decoy », cioè di falsi bersagli: grosse nubi di filamenti metallizzati che si presentano al radar del missile come bersagli alternativi e più attraenti.

**D.** Se per l'auto-guida invece il missile usa altri sistemi, quello per esempio a raggi infrarossi o seguendo il calore del bersaglio?

**R.** Per i raggi infrarossi, si può trovare il modo di ingannarli, perché anche questo è un sistema « attivo », cioè che emette qualcosa: raggi appunto infrarossi. Il problema vero riguarda invece i sistemi di auto-guida « passivi », che non emettono nulla ma captano le emissioni radar o quelle termiche del bersaglio. Contromisure adeguate non sono state ancora trovate. Si stanno però studiando sistemi di isolamento termico, vernici e materiali speciali che rendono l'aereo « invisibile » al radar. I sommergibili a loro volta possono difendersi piazzandosi a quei livelli del fondo marino in cui la temperatura dell'acqua circostante è identica a quella della superficie esterna delle lamiere. Ma, anche qui, si stanno sperimentando satelliti in grado di « pizzicare » un sottomarino dovunque si trovi.

a cura di Enrico Verdecchia

### FALKLAND/SEGUE

fondatare una motovedetta argentina. Elicotteri Lynx, decollati da una fregata o da un cacciatorpediniere della task force, hanno sganciato missili Sea Skua: proiettili aria-nave in dotazione alla Royal Navy da meno di un anno. Di questi missili non si conosce altro che il loro peso (80 chili) e la lunghezza (2 metri e mezzo).

Concepito per gli elicotteri, lo Sea Skua ha una gittata di circa 9 miglia, superiore a quella dei sistemi antierei montati sui suoi obiettivi (piccole navi e motovedette). L'elicottero si avvicina fino a entrare in contatto radar con l'obiettivo: sarà infatti il segnale radio emesso dall'elicottero, e riflesso dal bersaglio, a guidare il sistema di puntamento del missile,

che viaggia a 550 miglia orarie, un metro e mezzo sopra la superficie del mare, e, prima di esplodere, penetra profondamente in modo da creare il massimo danno.

Durante la battaglia, gli inglesi hanno probabilmente utilizzato per la prima volta due altre armi aviotrasportate: le bombe BL 755, capaci di distruggere i carri armati e i mezzi blindati leggeri e in grado di minare il terreno con micidiali bombe a scoppio ritardato; e le bombe di fabbricazione anglo-americana JP 233, sganciate dai bombardieri Vulcan sull'aeroporto di Port Stanley, concepite per devastare le piste di atterraggio di cemento armato.

Dietro una facciata dal sapore ottocentesco, con il giovane principe Andrea, insieme alla sua flotta, impegnato nella riconquista di

territori perduti, residuo dell'epoca coloniale, si nasconde dunque una realtà del tutto nuova. « La battaglia delle Falkland dimostra che non bisogna sottovalutare la minaccia di nessuna area calda del mondo, quando entrano in gioco armi moderne e sofisticate » ha osservato, all'indomani dell'affondamento dello Sheffield, l'americano John Lehman, ministro della Marina.

Quelle isole sperdute nel Sud Atlantico sono diventate, infatti, il centro di uno scenario impressionante.

Quando, il 2 aprile, la bandiera argentina ha cominciato a sventolare a Port Stanley, nel centro dell'arcipelago, ribattezzata Soledad dagli invasori, c'era già un occhio che da molto lontano scrutava la situazione. Era il satellite Cosmos





1345, dotato di potenti sensori radar, lanciato dai sovietici proprio due giorni prima, in un'orbita che permettesse di inquadrare quella zona. I rapporti dei servizi segreti dovevano aver segnalato l'inizio di una fase molto critica, perché nello stesso giorno, il 31 marzo, Mosca decise di mandare nello spazio anche un altro satellite, il Cosmos 1346, per l'ascolto delle comunicazioni. E il 2 aprile ne seguì un altro, il Cosmos 1347, un satellite fotografico.

Man mano che la situazione si aggravava, i satelliti russi si moltiplicavano. Oggi, secondo il *Defense Daily*, bollettino della Difesa pubblicato a Washington, sono sicuramente sei, ma potrebbero essere otto (non è certo se siano riusciti due lanci del 16 e 23 aprile).

Anche gli americani, in tempi brevissimi, hanno puntato sulla nuova area calda i loro satelliti fotografici, meteorologici e di comunicazione. E grazie al loro aiuto oggi il primo ministro inglese, la signora Margaret Thatcher, può avere minuto per minuto a Londra il quadro completo e aggiornato di ciò che succede alle Falkland.

La squadra navale lancia messaggi a microonde, captati da un satellite Comsat in orbita sopra l'equatore a 30 mila chilometri di altezza, il quale li rinvia al centro di ascolto della Nasa, sull'isola di Ascension, e da lì, attraverso un cavo coassiale sottomarino, arrivano fino al ministero della Difesa, a Londra.

I messaggi, a prova di decodificazione, vengono decifrati da un computer, e le frequenze cambiano di continuo, per evitare intercettazioni e azioni di disturbo. In più, le unità della flotta possono comunicare tra di loro, e anche direttamente con Londra grazie a un complesso sistema elettronico che portano a bordo: l'Ics3.

Una dopo l'altra, le meraviglie della moderna tecnologia sono apparse sul teatro di guerra delle Falkland con l'arrivo della Royal Navy. La portaerei *Invincible*, che ha meno di due anni di età, è dotata dei più moderni strumenti di comunicazione, computer, radar e missili.

E i sottomarini a propulsione nucleare (più silenziosi e quindi meno identificabili), che, oltre alla difesa missilistica, sono in grado di disorientare il nemico con il loro sistema elettronico che può intercettare, disturbare e interrompere del tutto le comunicazioni nel cam-

po avversario.

Eppure, tutti questi strumenti sofisticatissimi non sono bastati a evitare all'Inghilterra un pesante scacco. In una guerra in cui la parola è all'elettronica, proprio l'episodio del missile *Exocet* ha indicato una soglia ancora più alta. Secondo gli esperti militari, c'erano solo due modi per fermarlo. Una contromisura di tipo elettronico, cioè una nuvola di polveri metalliche e di pezzettini di stagnola sparata lontano dalla nave, che inganna la testa del missile e lo fa deviare. Oppure un sistema di « look-down », che consiste nella sorveglianza dall'alto con aerei speciali, per individuare e colpire gli oggetti che volano bassi e sfuggono ai radar delle navi.

L'affondamento dello *Sheffield* ha aperto soprattutto negli Stati Uniti una discussione sul ruolo e



L'ammiraglio « Sandy » Woodward (a sinistra) comandante della Royal Navy

l'efficacia delle portaerei e delle grandi navi da guerra nelle nuove strategie militari. E i piani di Reagan, che prevedevano la costruzione di una superflotta di 15 portaerei, sono stati messi sotto accusa da molti esperti militari, tra cui l'ex-comandante in capo delle operazioni navali, Elmo Zumwalt, favorevoli alla costruzione di una flotta di piccole navi, più veloci e più difficili da colpire.

Nel teatro delle Falkland gli inglesi non avevano adeguati sistemi di difesa? « Su una sola nave, come lo *Sheffield* non si può concentrare tutto quello che l'elettronica of-

frire, la protezione in una flotta è collettiva » spiega Maurizio Cremasco, membro dell'Istituto internazionale di studi strategici di Londra e dell'Istituto affari internazionali di Roma. « E gli inglesi non hanno aerei come gli *Hawk-eye* americani (occhio di falco) che possono essere basati sulle portaerei per la sorveglianza dall'alto. Hanno invece i « Nimrod », adatti alle stesse missioni e molto sofisticati, che possono però decollare e atterrare solo a terra ». La base più vicina nel Sud Atlantico alla zona delle Falkland, seppure a migliaia di miglia, è nell'isola di Ascension. Da lì, in questi giorni è partito un ponte aereo di « Nimrod » che, riforniti di carburante in volo, continueranno a sorvolare lo spazio aereo sopra la flotta, creando una nuova fitta rete di controllo.

L'escalation tecnologica nel conflitto anglo-argentino è diventata così la conferma più impressionante di quella che gli specialisti da qualche anno chiamano « la nuova era nei sistemi di guerra ». Già nel '75, Malcom Curriell, direttore del Defence research and engineering americano (centro di ricerche della Difesa), aveva avvisato, in un articolo sul *New York Times*: « Una serie di importanti sviluppi scientifici ci hanno convinto che ci sarà una vera rivoluzione nella guerra convenzionale ». In quell'anno, gli Usa avevano 30 nuovi gruppi di armi convenzionali in via di sviluppo. L'ultima fase del Vietnam e la guerra del Kippur nel '73, avevano fatto da banco di prova per le prime applicazioni dei sistemi che oggi sono alla base dell'ultima generazione di armi. E avevano fatto intravedere la promessa non solo di una maggiore potenza di fuoco, ma soprattutto di una maggiore mobilità e protezione, di una più precisa capacità di individuare e colpire il bersaglio, di un controllo più esteso e una flessibilità più alta nelle operazioni da combattimento. « Solo negli ultimi dieci anni sono stati individuati importanti campi di sviluppo per l'elettronica militare » ha sottolineato Richard Burt, capo dell'ufficio politico militare al Dipartimento di Stato, nel saggio *Nuove armi tecnologiche*. E ha aggiunto: « Oggi è chiaro che l'evoluzione scientifica marcia rapidamente e la diversità dei cambiamenti è impressionante. La capacità tecnologica delle opposte forze è diventata cruciale per la vittoria e la sconfitta ».

Non solo. Le armi sempre più sofisticate hanno finito per influenzare e modificare anche la





tattica e la strategia, creando in sostanza una nuova dottrina di guerra.

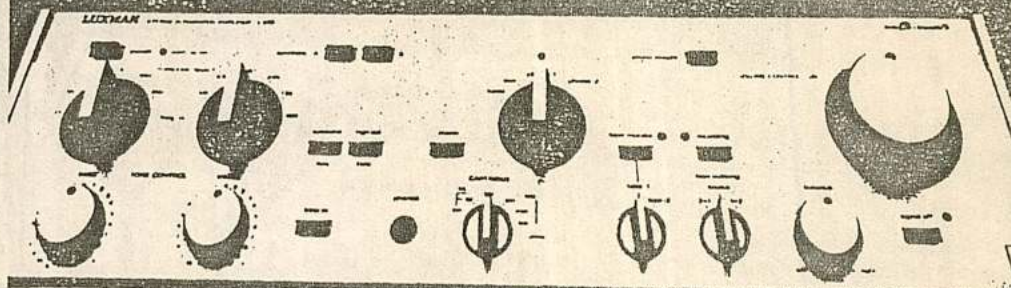
« Nel secolo diciottesimo la base dell'organizzazione militare era nei grandi eserciti. Nel diciannovesimo secolo ha acquistato importanza la forza navale. Nel ventesimo, l'aviazione è diventata determinante. E nel secolo ventunesimo saranno le forze elettroniche a dominare » è l'analisi che il generale Doyle E. Larsen, capo del Comando di sicurezza elettronica dell'aviazione americana, ha fatto nel luglio scorso sulla rivista militare *Air Force*.

La combinazione chiave della nuova era è in tre parole: satelliti-computer-armi intelligenti. Indicano tre campi in cui l'elettronica ha uno sviluppo sempre più accelerato, non solo per i progressi fatti dall'industria bellica, ma anche da quella civile, nel mondo delle comunicazioni.

Per Edward Teller, l'inventore della bomba H, uno dei più famosi scienziati americani « oggi da ogni nuova applicazione scientifica emerge una nuova tecnologia che può essere usata a scopi militari: non c'è separazione tra la tecnologia per la pace e quella per la guerra ».

L'esempio tipico è rappresentato dallo Shuttle, la navicella spaziale americana impiegata nei più diversi tipi di ricerca, grazie alla sua agilità. Le ultime missioni che ha compiuto, in particolare quella di un mese fa, hanno fatto emergere con chiarezza gli scopi militari. « Volendone fare un pieno uso, potremmo effettuare 70 lanci all'anno, a un costo moderato (circa 20 milioni di dollari ciascuno). Sfortunatamente, stiamo pianificando non più di una mezza dozzina di Shuttle all'anno » ha scritto Teller nel volume *Gli Stati Uniti negli anni 80*, pubblicato dalla Hoover Institution e considerato da molti come una bibbia del reaganismo. Secondo lo scienziato, non ci sono dubbi che l'uso militare dello spazio continuerà a svilupparsi. E nelle sue previsioni, in un prossimo futuro « le navicelle potranno essere armate di laser e bombe nucleari ». Le battaglie spaziali, che finora avevano ispirato i film più belli della fantascienza, come *Guerre stellari*, tecnicamente oggi possono essere una realtà. E certamente si configurano come uno stadio successivo della complessa macchina militare che già è in movimento.

# IL BLOCCO DI POTENZA LUXMAN



## Classe "A" - Duo-Beta/S Reinventata l'elettronica per la purezza del suono

Non una singola innovazione ma un intero sistema reinventato per giungere a riprodurre la purezza del suono.

Per la prima volta in una configurazione senza stadi intermedi il circuito Duo-Beta e l'esclusivo regolatore "Plus X" per controllare e dosare la controreazione negativa.

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NUOVE TECNOLOGIE MILITARI/2

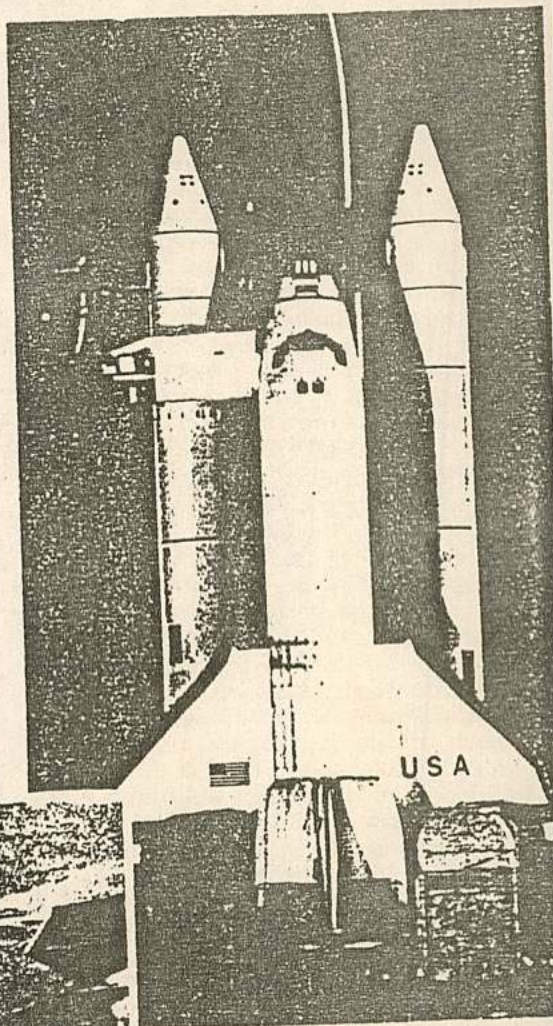
## Come combatteremo

*Satelliti, computer e missili intelligenti. Saranno loro i protagonisti delle guerre di domani. E i soldati? O saranno superspecializzati o potranno starsene a casa.*

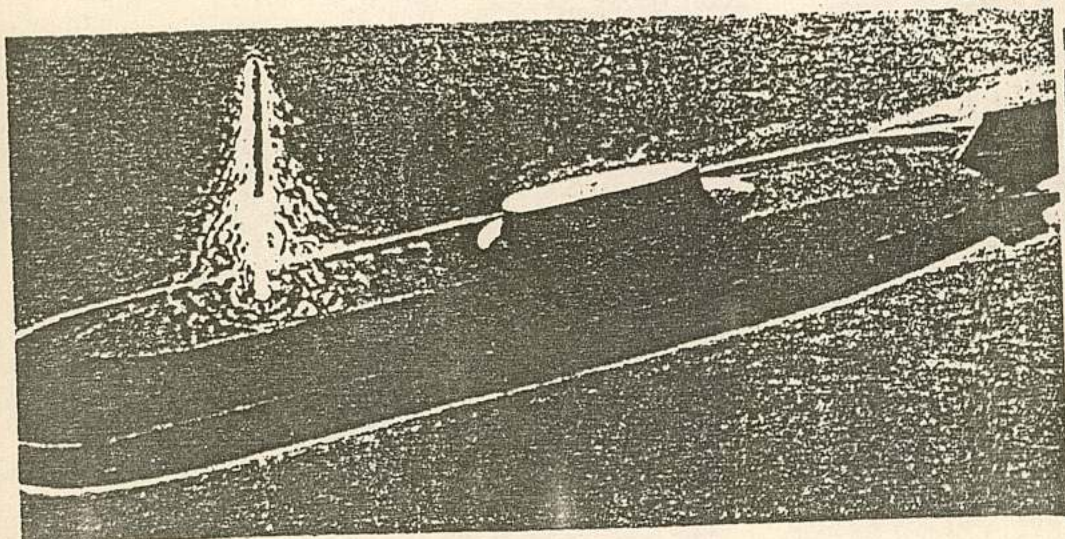
«**N**on ci sarà più bisogno di altri cambiamenti nelle armi da guerra» aveva predetto incautamente Friedrich Engels, fautore delle trasformazioni sociali, nella seconda metà del secolo scorso. «Ormai abbiamo il fucile, che può sparare tanto lontano quanto l'uomo vede e alla stessa velocità con cui l'uomo prende la mira. Nient'altro è più necessario». Doveva essere clamorosamente smentito. Se una rivoluzione c'è stata, negli ultimi cento anni, è proprio nelle armi. E le nuove tecnologie hanno radicalmente cambiato anche l'organizzazione militare. Ormai

è come un complesso organismo che ha il suo sistema nervoso nei satelliti, il cervello nei computer e gli arti per colpire nelle «armi intelligenti».

**I satelliti.** Rappresentano la migliore rete di sorveglianza. Possono fornire in qualsiasi momento la situazione fotografica di porti, aeroporti, movimenti di truppe, impianti industriali, dislocazione delle forze militari. E la loro capacità di analisi è formidabile: dalla fotografia di una pista vuota, per esempio, si può dedurre da quanto tempo è partito un aereo, in base alle tracce di calore che ha lasciato.



La navetta spaziale americana Columbia e, a sinistra, disegno di un sottomarino atomico russo mentre lancia un missile. In alto, un aereo da combattimento americano





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NUOVE TECNOLOGIE MILITARI



Il compito più importante che svolgono è quello della difesa antiatomica. Se dovesse partire un missile a testate nucleari, sarebbero in grado di dare l'allarme in pochi secondi. Ma anche nelle comunicazioni hanno un ruolo predominante. Più del 70 per cento delle comunicazioni del dipartimento della Difesa americano, per esempio, passa attraverso la rete dei satelliti. Secondo un rapporto pubblicato l'anno scorso dalla *Scientific American*, gli Usa hanno effettuato finora 1.030 missioni con i satelliti, di cui il 42 per cento militari. E l'Urss 1.776 missioni, di cui il 61 per cento militari. Gli americani avrebbero in orbita 310 satelliti-spia e i russi ancora di più: 550.

**I computer.** Il cervello delle operazioni militari è quello che gli americani chiamano « C3 », dalle iniziali: comando-controllo-comunicazioni. Cioè un sistema globale che consenta di valutare e gestire una crisi, di avere le informazioni necessarie per farlo, e di poter distribuire gli ordini per un efficace impiego delle forze.

Oggi, le nuove tecnologie hanno rivoluzionato i « C3 »: la parola è ai computer. Dalle unità più piccole alle più complesse. Nel Tac (controllo aereo tattico) per esempio, il computer è in prima linea, coperto da un tendone nell'accampamento, e compie le operazioni essenziali: mantiene il contatto diretto con gli alti comandi, raccoglie e aggiorna le informazioni, coordina le pattuglie, e guida le missioni di appoggio, con l'aiuto dei radar, indicando agli aerei i bersagli.

Ma l'esempio più macroscopico è quello della difesa antinucleare. È affidata a una linea di allarme antimissili balistici, chiamata in codice « Bmeus », che comprende 50 mila circuiti elettronici, copre 30 milioni di miglia, si serve di cinque satelliti e di più di cento piattaforme riceventi. Poggia su tre centri chiave: « Norad », a Colorado Springs, nello Stato del Colorado, il « Sac » (comando aereo strategico) a Omaha nel Nebraska, il « Nmis » (centro di spionaggio militare) del Pentagono, a Washington. E come punto di arrivo ha la sala ovale della Casa Bianca.

Il perno, comunque, è « Norad ». Tutto si svolge nel ventre di una montagna. Nessun estraneo si può avvicinare: tutta la zona circostante è controllata da radar e da circuiti televisivi. All'interno si muovono uomini in divisa e tecnici in camice bianco, tutti con talloncini

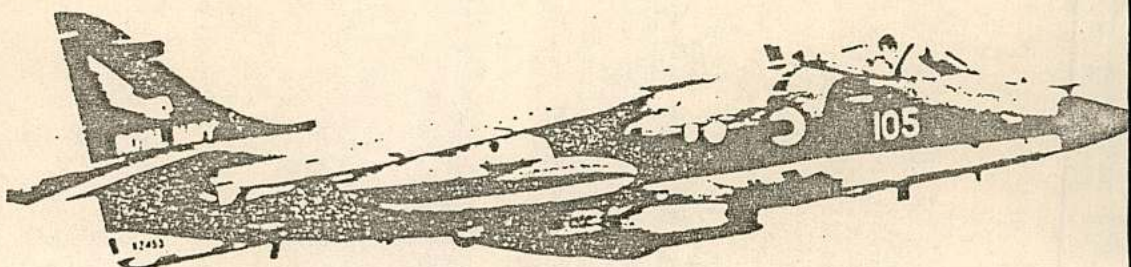




di riconoscimento bene in vista. Sono gli esperti mandati dalle ditte, come la General Electric e la Westinghouse, che forniscono le più sofisticate apparecchiature elettroniche.

Il cuore di «Norad», infatti, è un enorme computer, con decine e decine di terminali. La linea di allarme antibalistico è nata 25 anni fa, ma l'intero sistema computerizzato è stato sostituito l'anno scorso. Dalla montagna di Colorado Springs sono controllati i movimenti di tutti gli oggetti che orbitano intorno alla Terra, oggi più di 4 mila. E anche di tutti gli apparecchi che entrano nello spazio aereo americano. In caso di preallarme, in tre minuti sono pronti a partire gli intercettori F15.

E nell'aviazione soprattutto che l'informatica, come l'elettronica, regna sovrana. Solo il comando logistico delle forze aeree Usa impiega 40 mila computer. E nell'ottobre del 1980 è entrato in funzione il



L'aereo inglese a decollo verticale Sea Harrier, uno dei protagonisti dei combattimenti sulle Falkland

«Joint electronic warfare center» del dipartimento della Difesa americano: un servizio di collegamento per la guerra elettronica.

Armi intelligenti. Con i computer anche i vecchi aerei come i B52 e gli F111 sono stati completamente trasformati per diventare modernissimi strumenti di guerra nucleare. Sono già programmati per le missioni. Può capitare anche che il pilota salga a bordo e parta senza conoscere la destinazione ultima, perché è l'aereo a conoscere gli ordini trasmessi dal computer. Non

solo. «Il pilota di ieri per individuare e colpire l'obiettivo usava i collimatori ottici» spiega Maurizio Cremasco. «Quello di oggi usa sistemi di controllo del tiro completamente computerizzati, che possono sfruttare le proprietà dei laser e degli infrarossi». Si chiamano «avionics» e sono già molto diffusi nell'aviazione moderna. La loro evoluzione va di pari passo con quella delle cosiddette «armi intelligenti»: una serie di missili per i combattimenti in mare, in terra e in cielo, che vanno da soli sul bersa-



## In battaglia senza soldati

Dalla guerra elettronica a quella automatizzata: potrebbe essere il prossimo passo nel campo della tecnologia bellica. «Il principio del campo di battaglia automatizzato è semplice» spiega Frank Barnaby, dell'università libera di Amsterdam, ex-direttore del Sipri (Istituto di studi della pace di Stoccolma). «Le forze nemiche vengono localizzate al loro avvicinarsi o appena superano i confini di una zona prestabilita, attraverso centinaia o migliaia di sensori elettronici che captano anche le più leggere variazioni di luce, di pressione, di campo magnetico, i rumori, le onde elettromagnetiche, le radiazioni termiche, infrarosse, le onde sismiche provocate nel terreno dai movimenti di uomini o di veicoli.

«Oltre ai sensori, possono essere usati, allo stesso scopo, anche veicoli telecomandati e satelliti artificiali. Le informazioni raccolte da tutte queste fonti vengono trasmes-

se ai computer centrali, che le analizzano e ne ricavano gli elementi per decidere come opporsi. Scegliamo le armi adatte e le indirizziamo automaticamente sul bersaglio. Attraverso gli stessi sensori, poi, rileviamo i danni subiti dal nemico, li analizziamo e decidono di nuovo se procedere a una altra bordata, e così via fino alla distruzione delle forze avversarie».

Non è fantascienza. Gli americani stanno mettendo a punto un sistema del genere per la difesa anticarro, battezzato «assault breaker». Quando si approssima un attacco da parte di una grossa massa di carri armati nemici (lo scenario, ovviamente, riguarda in special modo un attacco da parte di forze convenzionali del Patto di Varsavia nell'Europa centrale), il sistema individua, attraverso radar speciali dotati di un enorme numero di processori, e installati su aerei da ricognizione o su veicoli telepilotati, la posizione esatta e i movimenti della formazione corazzata quando è ancora a molti chilometri entro il territorio nemico. Sopra la formazione viene lancia-

to un missile speciale, che funziona da contenitore di centinaia di missili più piccoli. Quando il missile esplode esattamente sopra i carri armati, da esso si liberano i missili più piccoli ciascuno dei quali è in grado di scegliere autonomamente il proprio bersaglio, punta sul carro armato prescelto con autoguida a raggi infrarossi o a microonde, e si dirige direttamente sulla torretta, che è la parte più vulnerabile del veicolo, e la fa saltare.

In questo modo un solo missile contenitore è in grado di mettere fuori combattimento un enorme numero di carri armati nel giro di pochi minuti e praticamente senza intervento umano.

Ormai le nuove tecnologie dei circuiti integrati, dei processori, delle microonde e del laser rendono istantanee (in «tempi reali») individuazione del nemico, comunicazioni e risposta armata: in altre parole si automatizzano sempre più le componenti della formula «C3», cioè «communication, command, control and intelligence».

Enrico Verdecchia



glio. Per fronteggiarli, esiste un'altra vasta gamma di contromisure elettroniche. A questi, si aggiungono poi gli aerei-kamikaze, per missioni di sorveglianza e di disturbo delle linee nemiche, senza il pilota a bordo.

**Il futuro.** Al primo posto, nel programma militare dell'amministrazione Reagan, c'è l'elettronica. Negli anni 80 le Forze armate americane spenderanno più di un miliardo e mezzo di dollari (1.800 miliardi di lire) per i nuovi apparati tecnologici. Esercito, marina e aviazione stanno sviluppando nuovi programmi per l'impiego delle fibre ottiche. L'anno scorso, l'Agenzia di progetti ricerca del ministero della Difesa ha annunciato che sono state sperimentate una serie di importanti applicazioni militari dei « fasci di particelle veloci » (cioè di neutroni ed elettroni).

In tutti questi campi, la corsa tra americani e sovietici si fa sempre più serrata. L'industria bellica e quella elettronica alimentano in continuazione un mercato da centinaia di miliardi. E intanto si aprono nuovi problemi, a cominciare da quelli umani. « Abbiamo bisogno di un soldato diverso » è una frase ricorrente sulla bocca di Caspar Weinberger, segretario della Difesa, e del segretario di Stato Haig.

Qualche settimana fa, per la prima volta, è comparsa in America una pubblicità martellante alla televisione. Invita a presentarsi volontari per essere arruolati. Ma la scena è quella di un ufficiale che dice a un giovane: « Mi dispiace, tu non vai bene, non hai i requisiti minimi ». E poi, in primo piano spiega: « Cerchiamo giovani istruiti, con capacità tecniche e scientifiche, che abbiano attitudini per la nuova guerra ».

Il « raptus » della modernizzazione, insomma, sembra inarrestabile. Ma i rischi sono altissimi. « E necessario riuscire a coniugare la tecnologia con la strategia e la tattica. Perché il problema vero è nel fare le scelte giuste » osserva Luigi Caligaris, generale di brigata, e fino a qualche mese fa capo dell'ufficio politico allo Stato maggiore, uno dei militari italiani più conosciuti in campo internazionale. « Le sollecitazioni tecnologiche sono fortissime. Ma non si può avere tutto. Ogni Paese deve prima essere in grado di valutare le sue condizioni, capire da che cosa ha bisogno di difendersi e come vuole difendersi ».

Chiara Sottocorona

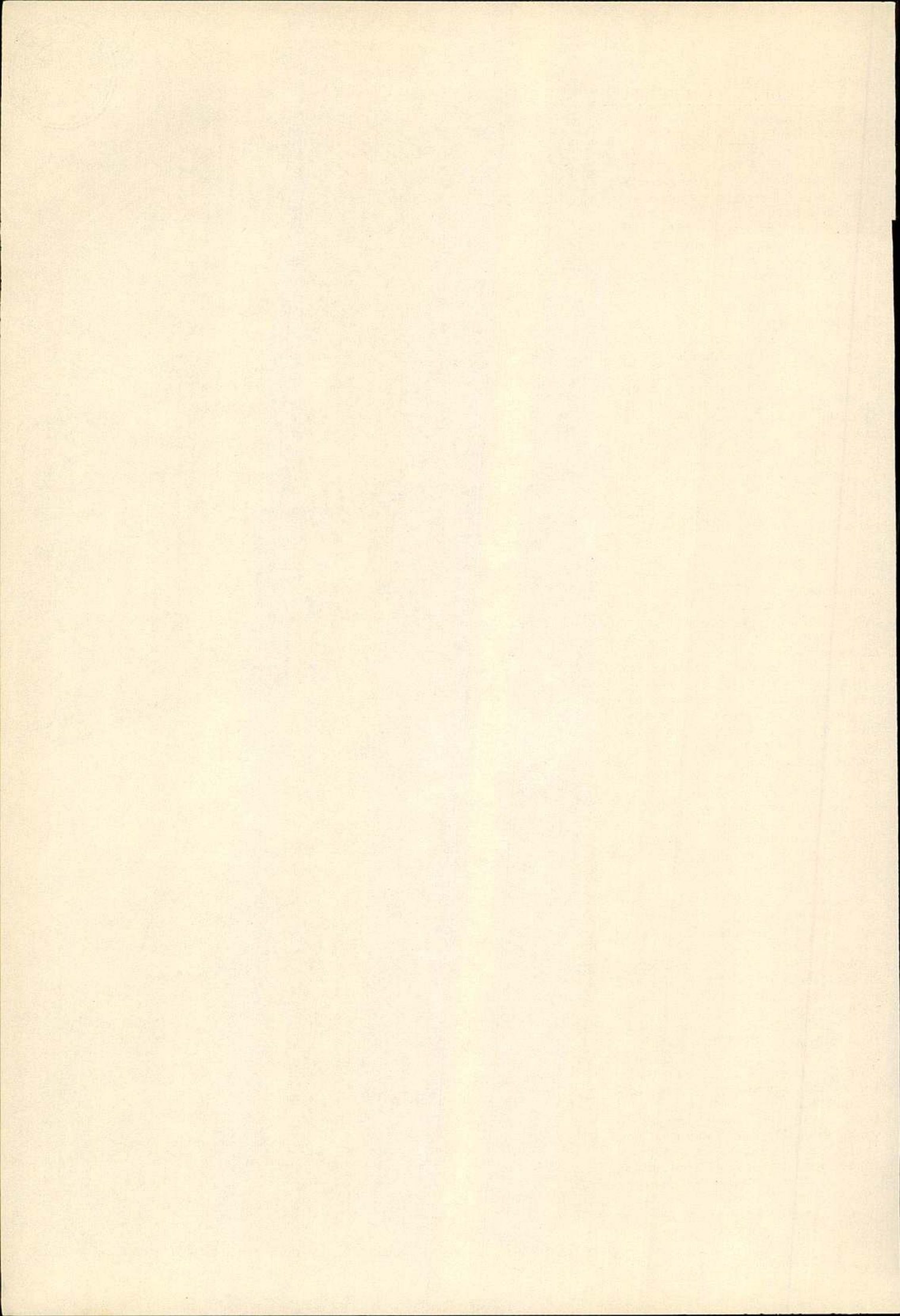
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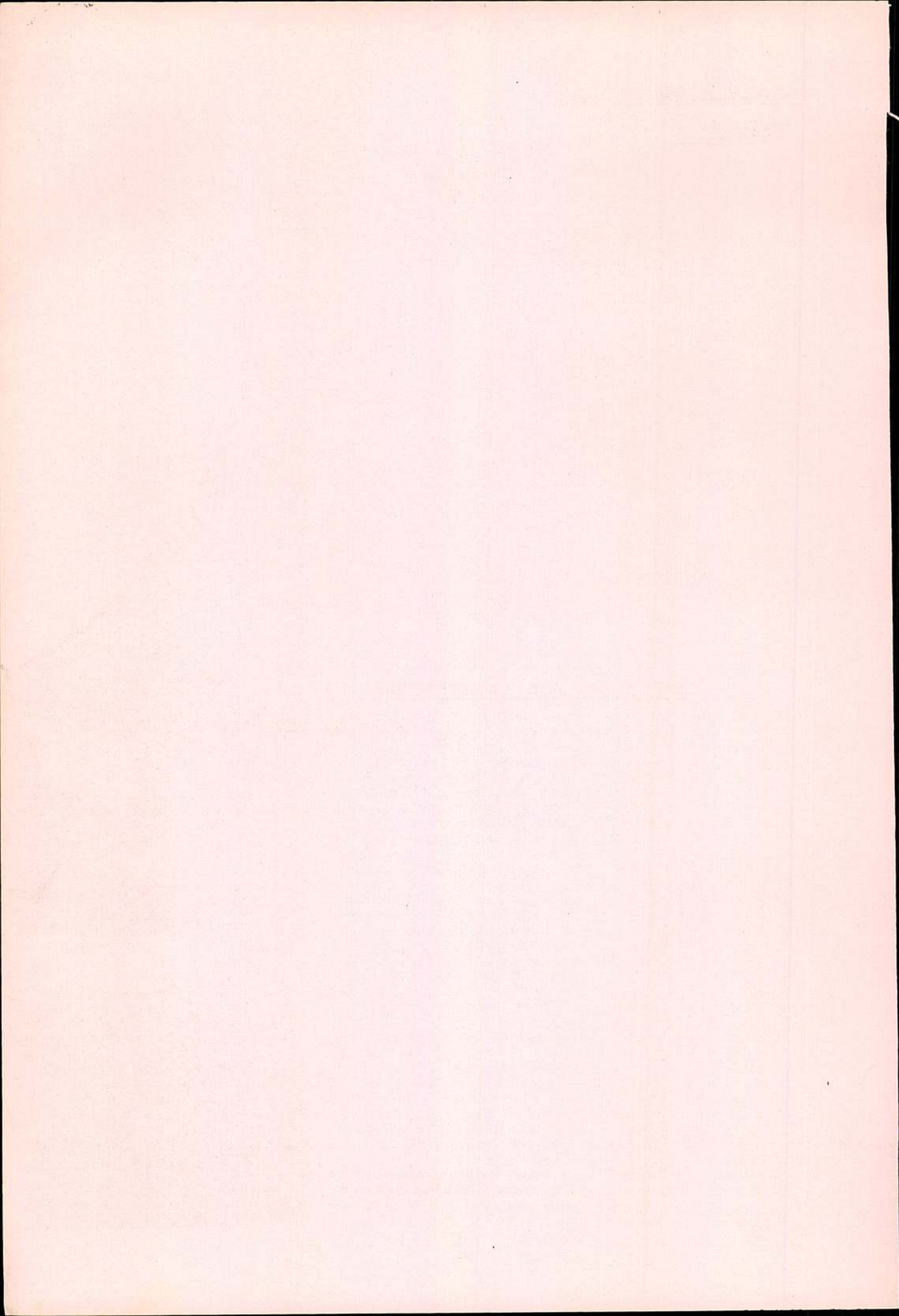
TACTICA



EXPLOSIONS AND BREAKTHROUGHS

(Time 7, JUN. 82)







FALKLAND ISLANDS

# Explosions and Breakthroughs

*The British lose ships—but gain ground*

**S**uddenly, they burst out of their bridgehead in the embattled Falkland Islands. After days of unceasing attacks by the Argentine air force that caused serious naval losses, the Second Battalion of Britain's Parachute Regiment moved rapidly out of the hard-won corner of East Falkland near the settlement of Port San Carlos taken by invasion only a week earlier. The paratroops descended 20 miles south toward the villages of Darwin and Goose Green late last week and took them after a stiff 14-hour fight. When the shooting finally died down, and after delicate surrender negotiations with the local Argentine commander, the British had taken more than 1,400 Argentine prisoners, among them 120 wounded. Twelve British troops were killed, including the Second Battalion's commander, and 31 were wounded.

At the same time, British Royal Marine commandos, backed by 7.8-ton Scorpion tanks, which move with relative ease through swampy areas, had begun their own push from the beachhead. Traveling eastward from Port San Carlos, they were moving along roads that were no more than rutted tracks toward the Falklands capital of Port Stanley, 48 miles away. Their aim: to launch an attack on some 7,500 troops dug in around the settlement, the bulk of the force that precipitated the South Atlantic crisis with their own invasion of the bleak islands on April 2.

The British troops were maintaining radio silence, and the Defense Ministry was keeping a tight control on what it blandly called "offensive land operations." Nonetheless, the dual attack showed signs of being a classic pincer movement. The outnumbered 5,000-man British force was relying on surprise and mobility to take the battle to the enemy. Only a day after British Prime Minister Margaret Thatcher told the House of Commons that "our troops are moving forward," the British had taken a long stride toward the goal of winning the fierce, stubborn and frustrating war for possession of the Falklands.

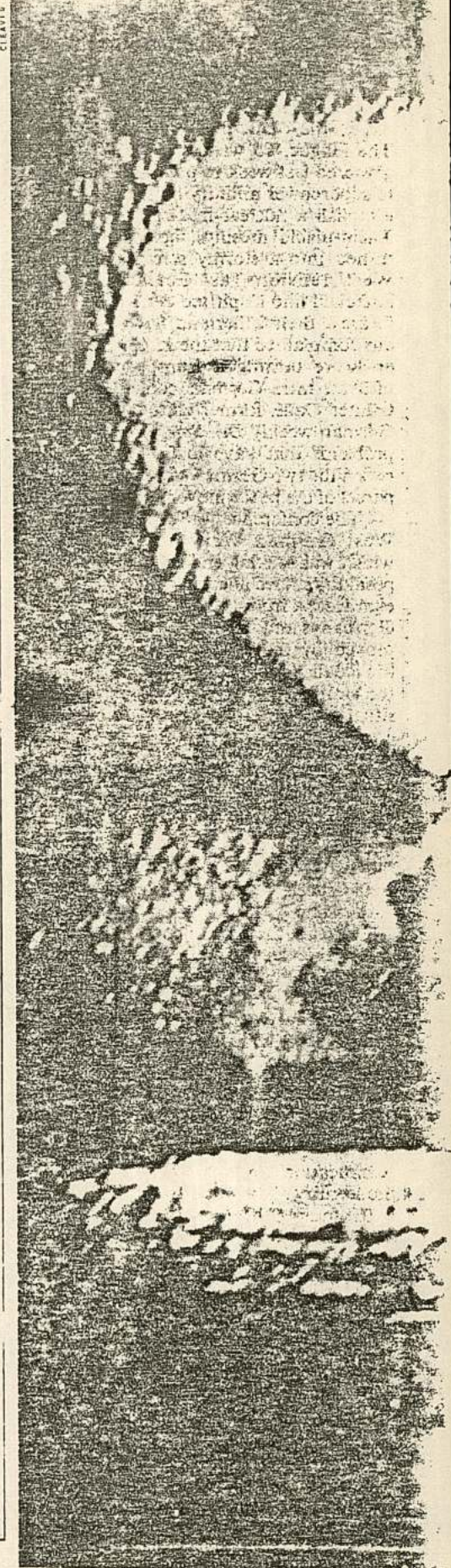
In Buenos Aires, the government of President Leopoldo Fortunato Galtieri,

55, was slow to admit the recapture of Darwin or the general thrust of the British advance, but eventually conceded that 800 Argentines had been taken prisoner. Initially, the junta had announced that a raid by British troops in helicopters had been repelled at Darwin, near Goose Green, the second largest settlement in the sparsely populated Falklands, and that a Harrier had been shot down at Port Stanley. Insisted Brigadier General Basilio Lami Dozo, commander

of the Argentine air force: "The battle is going well for us. We have our capacity intact." But the battle did not seem to be going well for Argentina, and at the very least a ferocious war had entered yet another stage—the British were poised for a major assault, and perhaps a bloody one, on Port Stanley.

In their ground assault toward the south, the British ran into unexpectedly strong resistance from an Argentine garrison they had estimated at 600 men, but which turned out to be close to 1,500. The paratroops quickly seized Darwin, leaving isolated pockets to be cleared up later. But as they pushed on toward Goose Green and its airfield, resistance stiffened, triggering what the British Defense Ministry later described as a "hard slogging match." When the Second Battalion assaulted the Argentine positions near the airstrip just before dawn, covered by naval gunfire, the well-dug-in defenders pinned the British down with perfectly ranged mortar barrages and fire from anti-aircraft guns. At one point, Argentine propeller-driven Pucará ground-support aircraft and A-4 Skyhawk jet bombers strafed the paratroops, but lost four planes to shoulder-fired British anti-aircraft missiles. "In mid-afternoon," reported the BBC's Robert Fox, "we were again pinned down by mortar fire among some gorse bushes. We were told that the commanding officer, Lieut. Colonel Herbert Jones, had been shot dead by machine gunners as he led a platoon against machine-gun nests, which had

**H.M.S. *Antelope* exploding in flames off Port San Carlos after an Argentine bombing raid.**

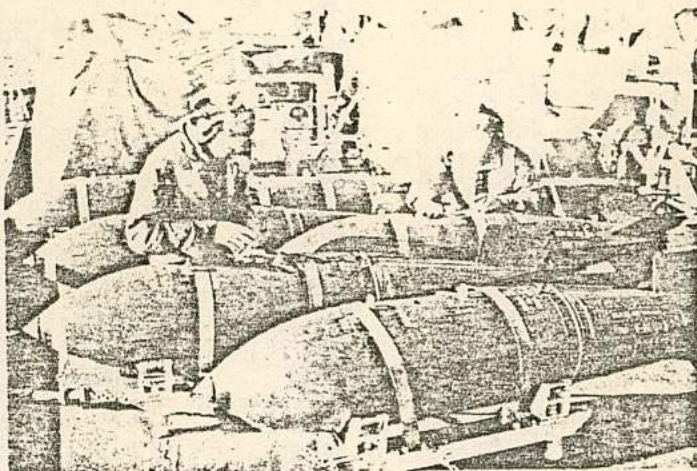




held up the battalion for over half an hour. After 14 hours of fighting, the Argentine commander agreed to surrender. Reported Fox, "He paraded his airmen and gave a political speech, and after singing their national anthem they threw their guns and helmets to the ground with obvious relief."

Fox said that the Argentines had held 114 Goose Green inhabitants in the community hall for nearly a month, that soldiers had raided homes and looted the town store, and shot up a shepherd as he tended his sheep. "Now prisoners are being made to clear up the mess they made in the settlement."

In the days before the ground offensive began, the Argentine air force had done its determined best to keep the British penned up in their expanding bridgehead. As the Port San Carlos landing area grew from a foothold on a rocky shore into a substantial area, Argentine pilots flew sortie after sortie against the warships and supply vessels that moved through narrow Falkland Sound, and the results at times were devastating for Britain's warships. As they have all along, the claims from London and Buenos Aires varied greatly about the course of the spectacular war of attrition offshore. Britain reported the loss of a missile-bearing frigate, H.M.S.



Technicians aboard H.M.S. *Hermes* arming Harrier jump jets

Thatcher: Despite these losses, Britain's resolve is not weakened.

*Antelope*, destroyed when a bomb in its midsection exploded as efforts were being made to defuse it; a destroyer, H.M.S. *Coventry*, sunk by bombing; and a supply vessel, the *Atlantic Conveyor*, disabled and abandoned. The *Conveyor* was hit by the same type of Exocet missile that sank the British destroyer H.M.S. *Sheffield* four weeks ago. Including another frigate, H.M.S. *Ardent*, sunk on May 22, Britain said it had lost five ships in the struggle to regain the islands, but Argentina claimed Royal Navy losses were higher than that.

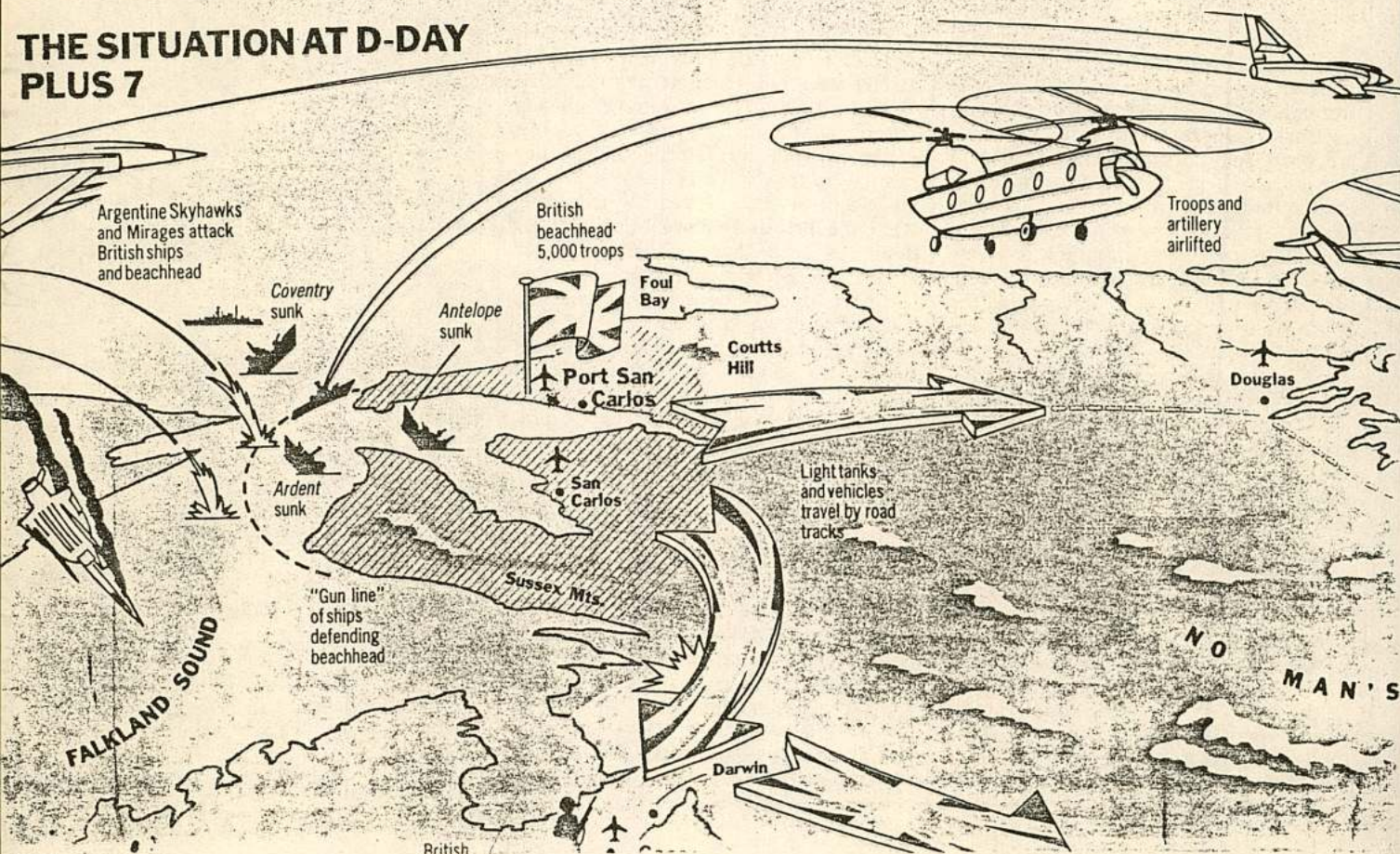
Reports of general losses were even more conflicting. The British claimed to have shot down a total of 69 Argentine

aircraft, about one-third of Argentina's air force, since the fighting began. The Argentine government said those figures were much too high; the truth was probably somewhere in between.

As the bitter war seemed to be nearing its climax, both sides had gained grudging respect for their adversary's fighting powers. Said British Defense Secretary John Nott: "I think the Argentine pilots have shown great bravery." Still, Prime Minister Thatcher declared: "We in Britain know the reality of war. We know its hazards and its dangers. Despite these grievous losses, neither our resolve nor our confidence is weakened."

The military government of President Galtieri showed no more signs of bending than the British. On May 25, Galtieri and his fellow junta members, Admiral Jorge Isaac Anaya, 55, and Brigadier General Lami Dozo, 53, took part in a Mass and *Te Deum* in Buenos Aires' Metropolitan Cathedral that celebrated the 172nd anniversary of Argentina's equivalent of the Declaration of Independence. Said Galtieri afterward: "At this time of patriotism, the sons of our land from the army, navy and air force will be singing the national anthem, even in their trenches." Galtieri publicly rebuffed a conciliatory

## THE SITUATION AT D-DAY PLUS 7

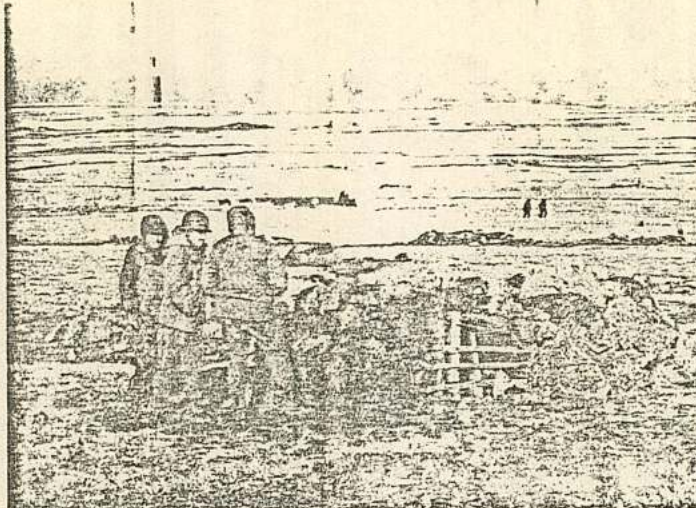




letter from President Ronald Reagan marking the anniversary. In a return letter, Galtieri stated that Argentina was "surprised" at the support that the U.S. was giving Britain in the Falklands conflict and declared Reagan's affirmation of common interests and values uniting Argentina and the U.S. to be "incomprehensible under the present circumstances."

Those circumstances included growing U.S. matériel support for Britain. Alexander Haig had promised that support when the U.S. abandoned a month-long mediating effort and swung behind Britain, on the principle that unprovoked Argentine aggression could not be condoned. In the early stages of the Falklands crisis, Washington's support consisted largely of providing some intelligence information and fuel supplies for the British armada at Ascension Island, the closest British staging area to the Falklands. That help has now been extended to cover a broad range of war goods, such as Sidewinder missiles, which the British could use to replace those fired by the task force Harrier jump jets, and Stinger portable anti-aircraft missiles in U.S. Army supply depots in West Germany.

Even as Britain and Argentina stiffened their resolve, efforts to find a diplomatic solution continued. At the U.N., the Security Council voted after lengthy de-



Argentine troops outside a crude underground bunker on East Falkland

Galtieri: Patriots will sing the national anthem in the trenches

bate to instruct Secretary-General Javier Pérez de Cuéllar to "negotiate mutually acceptable terms for a cease-fire" between London and Buenos Aires. He was given a week to try to achieve this impossible task before reporting back to the council.

Yet another attempt to provide a moderating influence was made by Pope John Paul II. On the eve of a long-scheduled six-day visit to Britain, the Pontiff announced that he would also visit staunchly Roman Catholic Argentina. In a letter to President Galtieri, John Paul promised that his British visit would be "an incessant prayer in favor of peace."

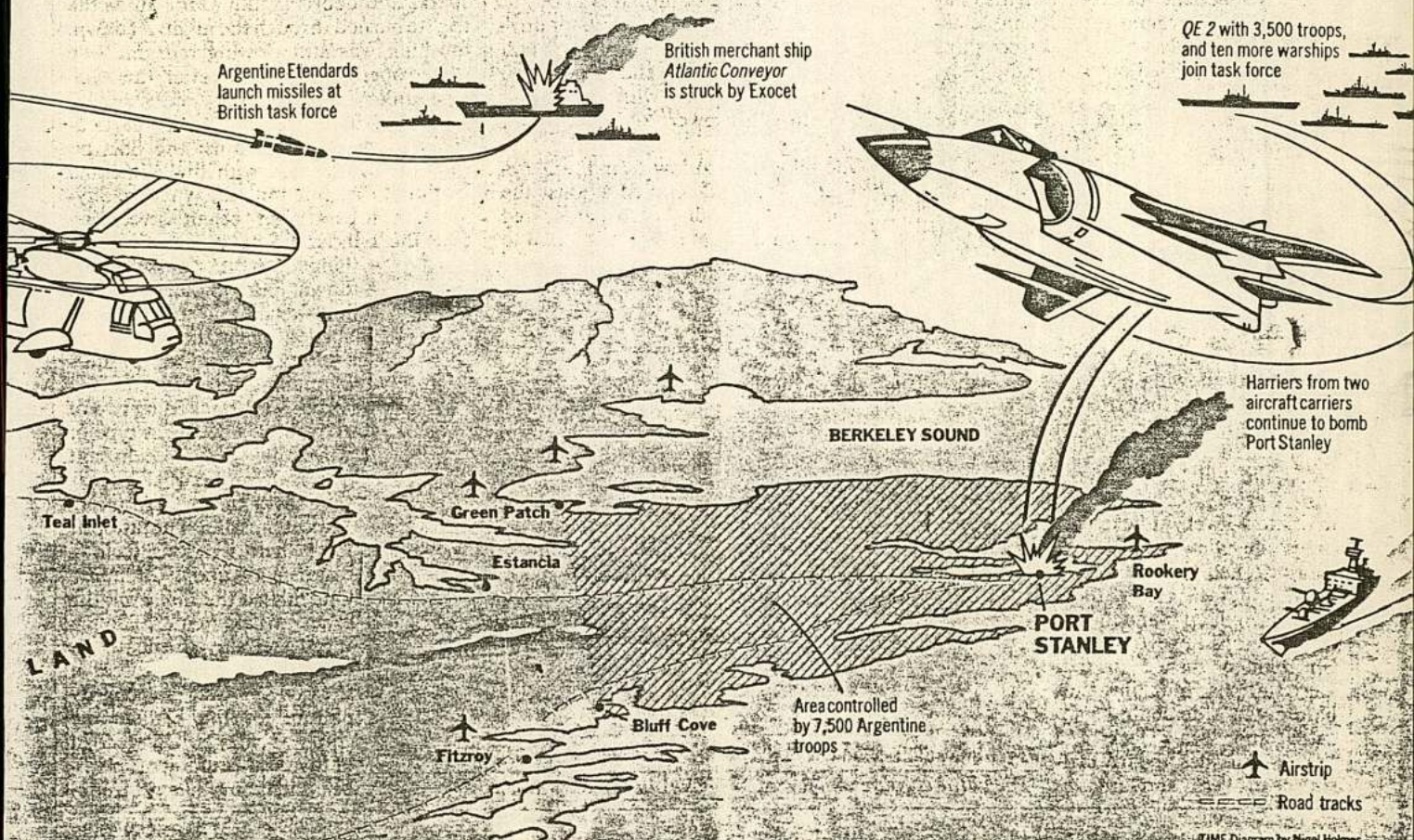
As the fighting went on, the interna-

tional implications of the crisis continued to grow. In Brussels, Britain received a strong boost from its European allies. Eight of ten members of the European Community, including France and West Germany, voted to extend indefinitely economic sanctions that the Community had leveled against Argentina following its April 2 invasion of the islands. British Foreign Minister Francis Pym declared himself "grateful" at the decision, even though Ireland and Italy refused to join in the measure.

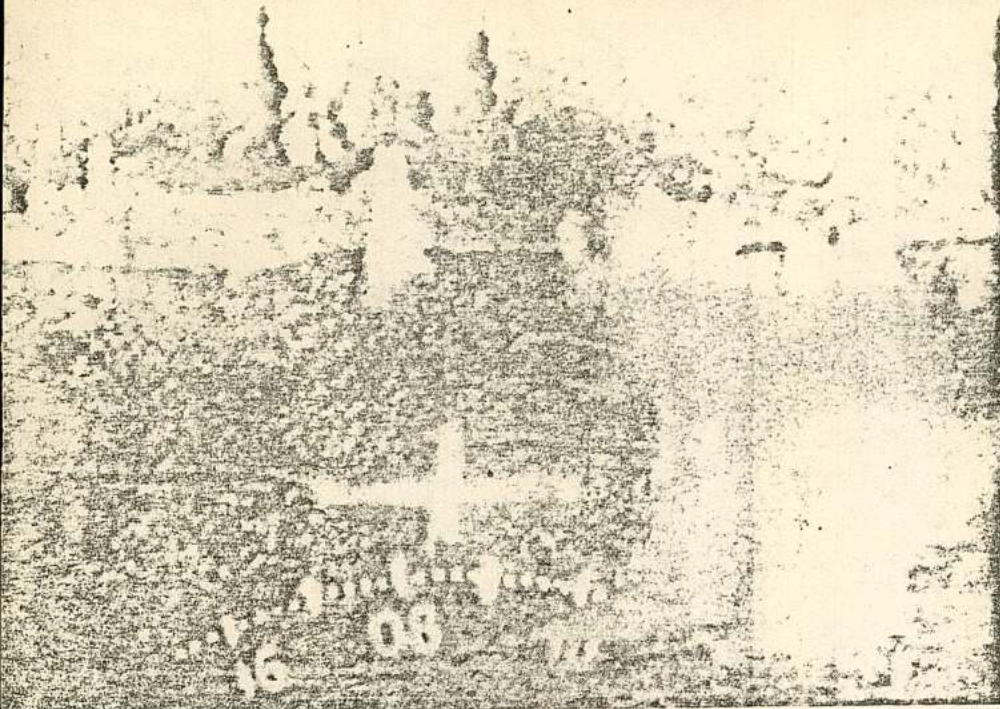
In Washington, at an emergency meeting of the 31-member Organization of American States called to discuss Britain's Falklands land-

ing, Argentina made a strong bid to rally Latin American nations to its side (see following story). The Reagan Administration was also concerned about a vague threat by Argentine officials that if the Falklands conflict proved lengthy, Buenos Aires might turn for help to Moscow, its largest trading partner. The Soviets are already believed to be providing Argentina with intelligence information via two spy satellites now orbiting over the South Atlantic.

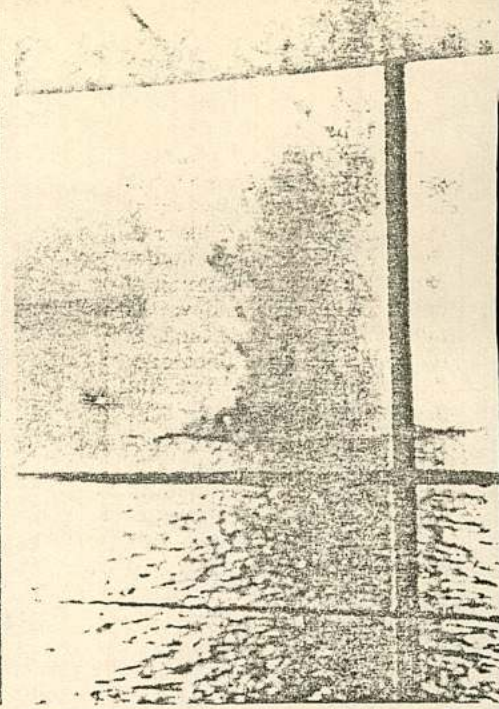
But all last week's diplomatic maneuvering was no more than a side issue compared to the vicious immediacy of the fighting. By choosing to invade Port San Carlos on the narrow Falkland Sound, the







View through an Argentine bombsight: explosions rock a British frigate



A bomb kicks up spray between ships in San Carlos

British had taken a considerable risk. Only 15 miles wide near Port San Carlos, the waterway gave the British fleet little maneuvering room against air attack. That problem was compounded by the fundamental weakness of the task force: its lack of adequate air cover and of an early-warning system like the U.S. AWACS aircraft. With only 36 Harrier jets aboard the armada's aircraft carriers, *Hermes* and *Invincible*, Task Force Commander John ("Sandy") Woodward had to take the chance of using missile-bearing warships as part of his front-line antiaircraft defense. His tactic: to establish a British naval "gun line" around the vulnerable assault ships, supply vessels and troopships that actually carried out the landing.

**A**rgentina reacted to the challenge with skill and daring. Brigadier General Lami Dozo ordered as many as 72 warplanes at a time into the air, everything from Pucará attack planes to Mirage III and Dagger fighter-bombers and A-4 Skyhawk bombers. The aircraft swooped down on the San Carlos inlet from the west and from the south, their pilots showing little regard for safety as they tried to get at the fleet. In groups of up to three at a time, they raced the full length of the San Carlos anchorage on their low-level attacks. At times they flew so low that spray flecked their canopies.

On the sea below, there was disciplined pandemonium. Klaxons howled as British seamen rushed to red-alert stations. Machine guns hammered a deafening staccato, and Sea Dart and Seawolf missiles aboard British destroyers and frigates

locked on to targets and then whooshed away in clouds of smoke and flame. Land-based Rapier antiaircraft missiles joined the fray, as did the Harriers with their Sidewinder missiles (see box). The Argentine pilots could see the missiles zooming toward them and hear the gunfire, but they continued to press their attacks. Said one military attaché: "They are bloody good flyers with plenty of courage." After a bombing run, one Argentine pilot said: "The adrenaline races through you. Instinct takes over. You do everything you have learned and practiced over and over again until you had nightmares about it. There is no time to think, no time for anything. A split second freezes until you pull out and up into the high blue. When you land you are drenched with sweat like you've been in a shower. Your legs won't stop shaking."

One pilot flew so low over the *Antelope* that his aircraft scraped against the ship's mast. A 500-lb. bomb penetrated the frigate's midsection, where it failed to

detonate. The ship limped up the Bay of San Carlos, giving off smoke, and British bomb-disposal experts were sent aboard to see if they could defuse the bomb. The main assignment fell to Staff Sergeant James Prescott, 37, of the Royal Engineers. "One twitch, Dad, and you're dead," he had once told his father about his work. The bomb exploded and he died instantly.

Fire spread swiftly from the waterline to the deck. Landing craft hurried to the *Antelope* to lift off the crew and transfer them to other ships. More explosions sent sparks and debris high into the air as the frigate burned through the night. At dawn, the hulk was still glowing red, one side ripped open. Finally, hours later, the *Antelope* sank.

The British were braced for particularly heavy attacks against the fleet on May 25, to coincide with the Argentine National Day celebrations. Waves of Skyhawk bombers soon began screaming over the Falkland Sound. The *Coventry*,

helped by other vessels, shot down four of the attackers, but was hit and sunk by later sorties. Then the 14,946-ton *Atlantic Conveyor*, a merchant ship hired for the task force, was attacked by two of Argentina's deadliest type of warplane: the French-built Super-Etendard fighters that carry the sea-skimming Exocet missile. The aircraft fired their weapons from a distance of about 28 miles. One missed the *Conveyor*; the other struck home. Though the vessel stayed afloat, the crew abandoned ship. Loss of the *Conveyor* was particularly painful for the British: the ship was carrying a large load of invasion equipment, possibly including heavy troop-

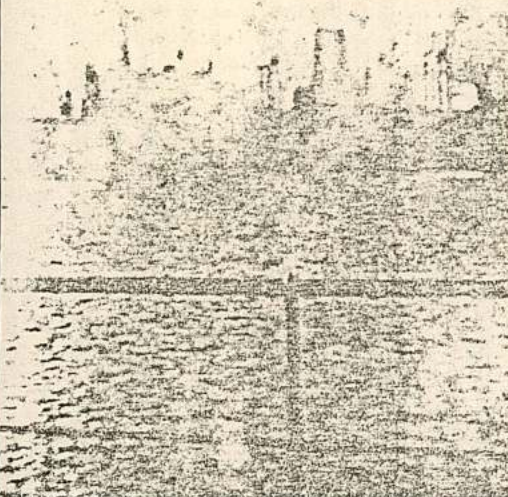


Argentine soldiers look skyward for British intruders

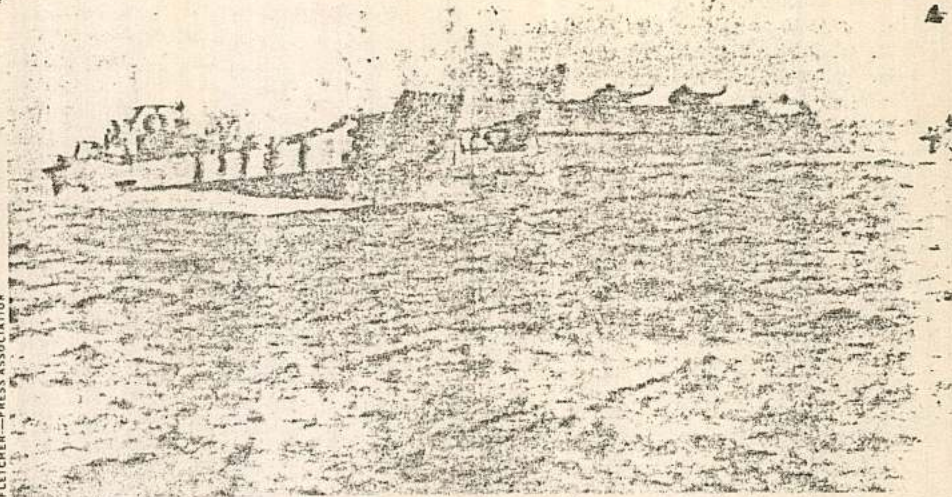
"The battle is going well for us. We have our capacity intact."



PRESS ASSOCIATION



Bay during all-out assault against invasion force



Landing craft speeding away from an assault ship with reinforcements for the beachhead

carrying Chinook helicopters and spare parts for the Harriers. What made the attack on the freighter especially disturbing for the British was that the *Conveyor* reportedly was within sight of the carrier *Hermes* when struck. Presumably, the *Hermes* was the real target; the Argentines had taken aim at the wrong blip on their radar screens.

The loss of the two ships marked Britain's bleakest day in the war. In the House of Commons, Nott announced that recent additions to the British task force (an additional three destroyers, four frigates, two submarines and a large minesweeper joined the fleet last week) more than balanced its losses in the past few weeks. Said Nott: "The task force has more escort vessels today than a week ago."

But to bolster its forces in the South Atlantic, Britain had to slash its commitment to NATO. Between one-half and two-thirds of the Royal Navy's operational warships are now in the task force, leaving a large gap in North Atlantic defenses. Normally, the British are responsible for 70% of NATO's antisubmarine defenses in the eastern Atlantic zone, particularly between Iceland, Greenland and the Danish Faeroe Islands. The U.S. Navy has now taken over those responsibilities, leading U.S. Chief of Naval Operations Thomas Hayward to worry, "We are pushing the Navy as hard as you can push it in peacetime."

Argentina was also being increasingly hard-pressed by the war and was searching world markets for spare parts and weapons. In particular, the Argentines were seeking Exocet missiles. Originally, there were believed to be only

six in the country's arsenal, and four have already been fired. Only a few other countries in the world might have Exocets to sell. Among them: Iraq, Pakistan, South Africa and Peru. The latter has already offered Argentina military support. A Peruvian navy vessel, attempting to take delivery of eight Exocets in France two weeks ago, was informed by French officials that the missiles were unavailable for "technical reasons." France has embargoed sales of the missile to Argentina.

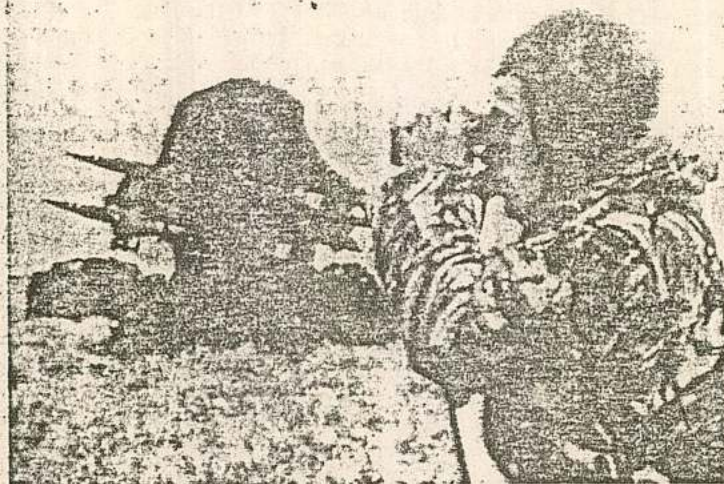
The harsh news of British losses at sea only seemed further to stiffen the resolve of Prime Minister Thatcher. Aides described her as being completely confident of her position, completely in command of herself. The personal traits that have made her so many political enemies—her combative nature, her refusal to bend to indecision or doubt—had singularly suited her to fulfilling the role of a wartime Prime Minister. General Galtieri may look haggard and Foreign Secretary Pym troubled, but Thatcher, close up, showed

not a bit of strain. Her firm and clear voice ringing through the House of Commons, she defended her position while the rows of Tories behind her rumbled their approval.

Addressing a Tory women's conference last week, the Prime Minister, a deadly serious figure dressed all in black, said, "To those—not many—who speak lightly of a few islanders beyond the seas and who ask the question 'Are they worth fighting for?' let me say this: right and wrong are not measured by a head count. That would not be principle but expediency." The Conservative women gave her a standing ovation.

**C**onfident of victory, Thatcher and her top advisers have already mapped out a tough course of action to determine the future of the Falkland Islands. The plan, says a top British official, is predicated "on total surrender of the Argentine forces on the Falklands." After a British triumph, reports TIME Correspondent Frank Melville, the captured Argentine troops would not immediately be repatriated to their homeland. They would be held as prisoners of war until the junta agreed in writing to a formal cease-fire, one that included air and naval units as well as ground forces. If necessary, Britain would move the Argentine prisoners to the United Kingdom until its demands were met. If the junta launched another invasion of the islands, or even continued air strikes, the Thatcher government would attack Argentine air bases on the mainland with long-range Vulcan bombers and commando raids.

Once the British had re-



British soldier near Rapier anti-aircraft missile battery scans for the enemy  
In the port of Plymouth, a sense of grief tempered with determination.



## World

possessed the Falklands, they would not feel bound by any understandings reached with the Argentines before the talks broke down. The affairs of the islands would be run not by any international body but by Rex Hunt, who would be returned to his post as governor. The British also intend to keep a garrison, initially of about 3,000 troops, on the Falklands indefinitely and to lengthen the runway at Port Stanley so that it could handle high-speed, longer-range jets such as Phantom multirole fighters and Buccaneer strike aircraft. If the need ever arose, these planes could carry out attacks on the Argentine mainland.

So adamant is Thatcher toward the junta that she would not agree to any face-to-face talks, private or public, by any

the islands. Leaving aside the question of the ultimate status of the islands, the British feel there must initially be a search for some kind of halfway solution. One possibility: a U.N. trusteeship for the Falklands. Another: an independent Falklands "nation." A third: a new Antarctic trusteeship that would include the Falklands.

Whatever is decided, Britain would want the security of the Falklands to be guaranteed by a number of countries in the Southern Hemisphere plus the U.S. Britain would also be faced with the cost of repairing the war damages, but would want to attract as many nations as possible to invest in developing the islands. Says Foreign Secretary Pym: "The best future for the islanders will be in rebuild-

We avoid it. But when we are roused, there's no stopping us. The ordinary working man in this country is a much tougher bastard than he is given credit for."

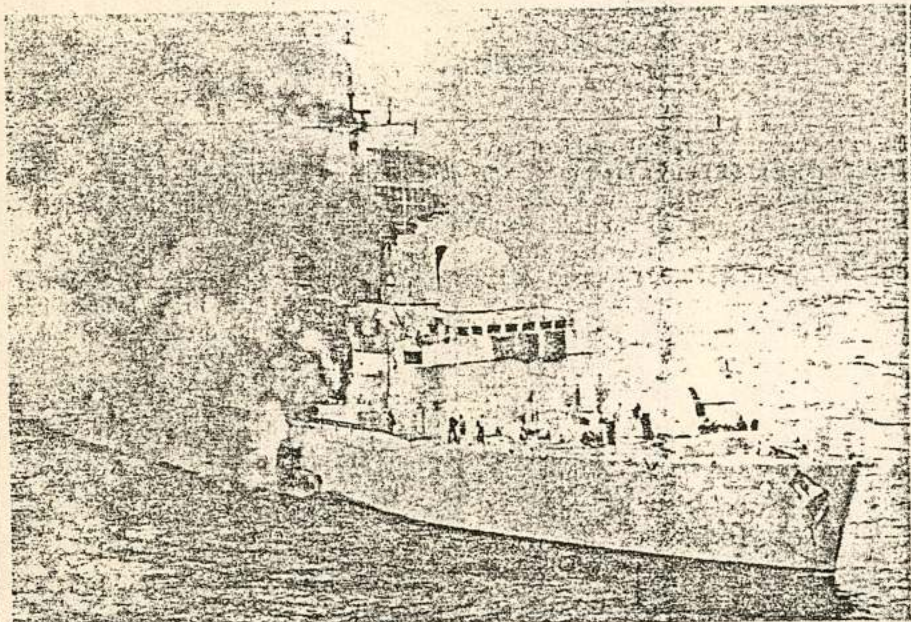
But the losses in the Falkland Islands sobered the British public about the war. The excitement, tinged with jingoism, of the early days of the conflict was gone: the destruction of four warships of the Royal Navy was a jolt. Telegrams of sympathy from across Britain, and from Canada, Australia and the U.S., poured into Plymouth, home port of the *Ardent* and the *Antelope*. Lord Mayor Reg Scott said his city's mood was one of "grief tempered with determination."

**F**or the first time, Queen Elizabeth referred in public to the Falklands fighting as she opened the Kielder Dam in Northumberland. Her voice filled with emotion as she said, "Our thoughts today are with those who are in the South Atlantic and our prayers are for their success and a safe return to their homes and loved ones. But ordinary life must go on." In Gloucestershire, Prince Charles was asked about Prince Andrew, second in line to the throne and a Sea King pilot aboard the *Invincible*. Prince Charles replied: "He's all right—just flying very busily. I don't think he's ever done so much flying in his life."

In Buenos Aires, the public mood throughout the invasion week was restrained and somber. On National Day, the ruling junta decreed that an atmosphere of "austerity and solemnity" should honor the occasion. Argentines were buoyed but not ecstatic at the news that John Paul II would visit the country, something that Argentina has greatly desired for years. Headlines in the local press claimed extravagant victories (THE ENGLISH HAVE SUFFERED 200 DEAD AND 800 WOUNDED), but few citizens could ignore their government's reluctant admission that 1) the British had established a beachhead on the Falklands and 2) the foothold was rapidly growing. More and more, Argentines were expressing a longing for peace. Said Produce Vendor José Oscar Moryda, as he tidied up his display of fruits and vegetables in the El Retiro market in central Buenos Aires: "If I knew the Pope was coming here specially to bring a solution to the war, it would be great. I suppose he might try, but events have gone so far I just don't know if even he can do anything." Said a housewife in the Buenos Aires working class suburb of Liniers: "The whole thing is out of control. It's like determined children stamping their feet. Surely there are some grownups around on both sides who can talk in serious fashion, without guns."

As the fighting increased on the ground last week and the British marched toward Port Stanley, the guns were doing all the talking.

—By George Russell.  
Reported by Arthur White/London and James Wilde/Buenos Aires



Smoke pours from H.M.S. *Sheffield* after it was hit on May 4 by a French-built Exocet missile. British praise for Argentine pilots, but a vow to fly the Union Jack in Port Stanley.

British official with the Argentine government. Britain would hope to use as intermediaries either Secretary of State Haig or U.N. Secretary-General Pérez de Cuéllar. Their first job would be to convince the Argentines that they are in a no-win position with a Britain that, says a top government official, has both the "resources and will power to stick it out indefinitely in the Falklands." In the negotiations, the British would brush aside the Argentine insistence that talks lead to eventual Argentine sovereignty, although Thatcher's government does not rule out the prospect that the islands some day may become Argentine. But that is a process that would take years, not months, in the British view. For one thing, the islanders, whose wishes Thatcher insists on taking strictly into account, would clearly not vote in favor of joining the country that had just invaded them. Thatcher would also face a rebellion of Conservative backbenchers if she were to concede prejudgment of Argentine sovereignty after the loss of British lives in regaining control of

ing. If there is peace, stability and friendship in the whole region, people are more prosperous and their economic future is brighter." Pym also feels that the Falklands and Argentina must work out good relations if the islands are to prosper.

**A**s the Thatcher government increased the pressure in the Falklands, it clearly had the support of the British people. Polls indicated that public approval of the Tories had actually risen after the invasion began and the casualties started to increase. One poll showed that 84% of those questioned backed Thatcher's handling of the challenge, in contrast to 60% when the task force was first dispatched. Until the Falklands crisis, the Tory party was registering a razor-thin lead, if any, over Labor and the newly formed alliance of Social Democrats and Liberals. In the latest poll, 51% endorsed the Tories, 25% Labor and 22% the Social Democrat-Liberal alliance. Said a senior Thatcher aide of the British spirit: "We do take a long time to rouse.



ESCUELA DE GUERRA NAVAL

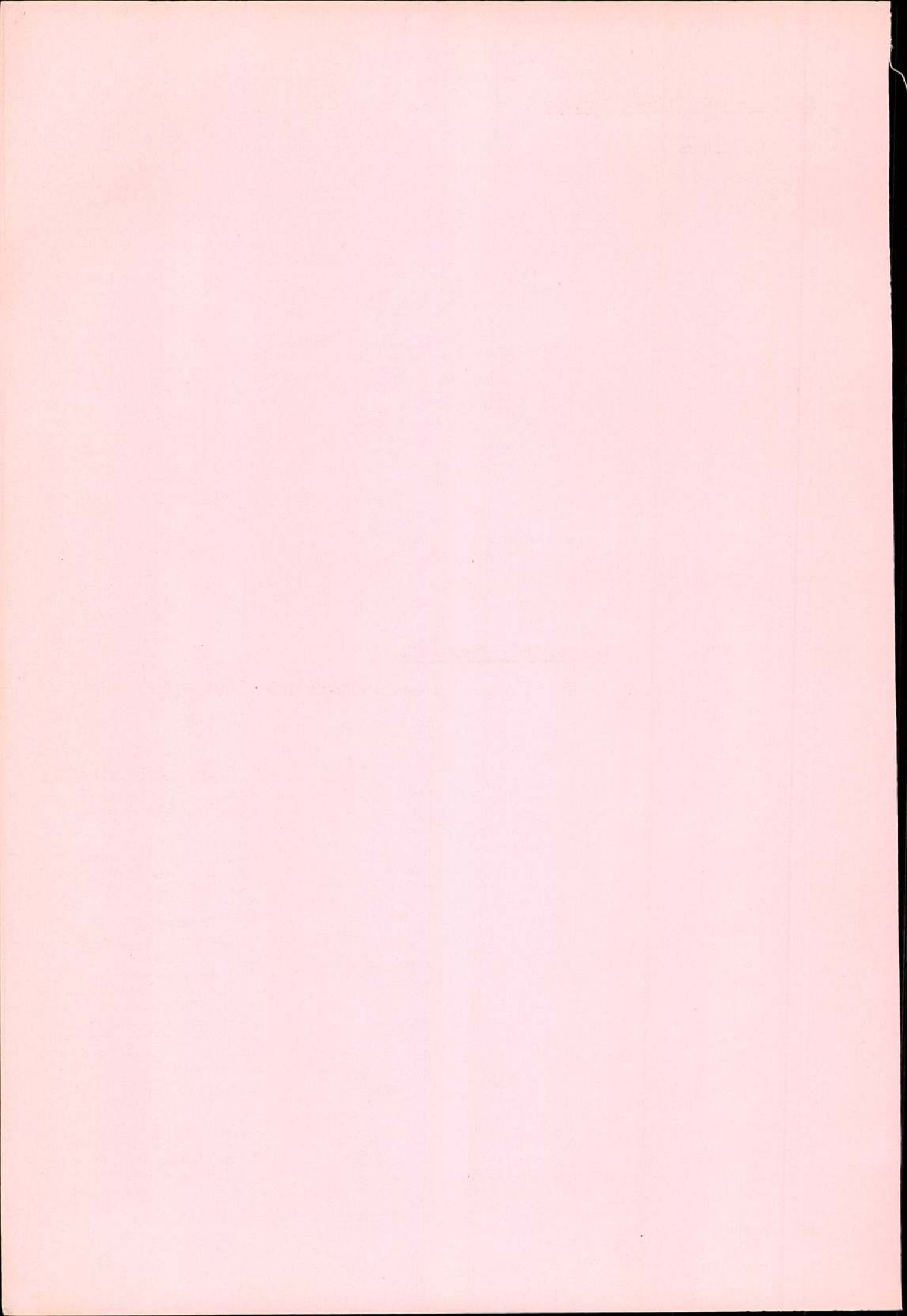
TACTICA



LA GUERRA AERONAVAL

(Reconquista núm. 384 JUN. )







# LA GUERRA AERONAVAL

## (1.ª FASE)

vos del Ejército y aviones Pucará. Dos helicópteros artillados británicos abatidos y muchas víctimas.

3. A las 8,15 los ingleses efectúan un nuevo bombardeo aéreo, teniendo nuevamente como objetivo destruir la pista de aterrizaje de Puerto Argentino. Son rechazados por la defensa antiaérea.

4. A las 9,36 se produce un intento de helidesembarco en la zona de Puerto Darwin, 75 Km. al oeste de Puerto Argentino. Un avión Pucará que se encontraba en reparaciones es destruido. Matan a 11 malvinenses (kelpers). Hubo un rechazo a cargo de tropas del Ejército que avanzó en dos columnas. Dos helicópteros ingleses fueron abatidos.

5. A las 14,25, naves inglesas bombardean la zona sur de Puerto Argentino.

6. A las 14,50 nuevos bombardeos aéreos sobre la pista de aviación de Puerto Argentino.

7. A las 15,30 se produce un ataque aeronaval e intento de helidesembarco 20 Km. al oeste, aproximadamente, de Cabo Corrientes, en la zona norte de la península de San Luis (norte de la isla Soledad), a unos 40 Km. al norte de Puerto Argentino, el que también fue rechazado. Dos fragatas inglesas resultan dañadas.

8. A las 17 la Fuerza Aérea argentina, con base en el territorio continental, ataca a parte de la flota británica, que apoyaba la acción descrita en 7. Se provocaron serios daños a una fragata inglesa y daños menores a otras tres.

9. A las 17,30, en forma simultánea, la Fuerza Aérea argentina ataca a parte de la flota inglesa 40 y 60 Km. al sur de Puerto Argentino con aviones Mirage, Canberra, Dagger, resultando un destructor averiado, cuatro aviones Harrier destruidos y tres posiblemente seriamente dañados y perdidos. El portaaviones «Hermes» recibió intenso fuego y posteriormente su pista de despegue fue dañada.

10. A las 21 los ingleses intentan un helidesembarco en cercanías de la pista de aviación de Puerto Argentino, con intenso fuego de artillería naval, durante dos horas, siendo rechazados por fuerzas terrestres y artillería.

Luego de esta última operación, la flota inglesa agresora se retiró en dirección este.

**D**OS naciones occidentales se atacan. La teóricamente débil Argentina provoca al también teórico león inglés. Y los Estados Unidos, olvidando su enfática doctrina Monroe, primero median en la disputa, ofreciendo con ello ocasión para el acercamiento de los medios británicos a la zona de lucha y luego se declaran abiertamente beligerantes al proporcionar ayuda logística y aérea al Reino Unido.

Las armas han hablado en las heladas aguas del Atlántico meridional. Naciones hasta ahora aliadas se acometen con furia. Y potencias occidentales que asistieron inmutables a episodios tan graves como los de Hungría, Checoslovaquia, Cuba, Afganistán o Polonia, se apresuran a intervenir con todo su poder militar en una cuestión aparentemente doméstica entre pueblos del mismo bando y en un asunto con claros acentos colonialistas. Pero si tan violenta reacción produce ya una perplejidad notable en el espectador imparcial, más se acentúa la sorpresa al comprobar que la hipotética desigualdad militar entre los bandos enfrentados no ha llevado a un desenlace definitivo y rápido.

Por eso, parece interesante examinar en conjunto los hechos y hacerlo, con toda la objetividad posible, desde el ángulo de observación argentino, ya que en Europa las únicas versiones obtenidas proceden de las necesariamente parciales fuentes británicas.

### Antecedentes de la cuestión

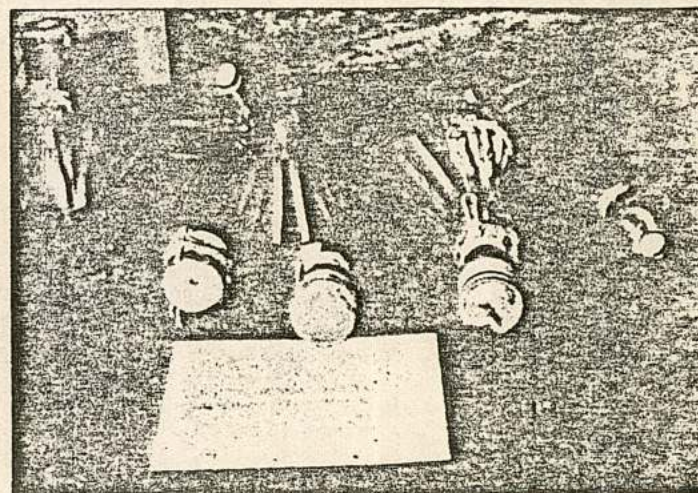
Las islas Malvinas y sus dependencias, los archipiélagos de Georgia y Sandwich del Sur, han sido causa de constantes fricciones entre los Gobiernos de Londres y Buenos Aires desde que, en 1933, fuerzas navales inglesas desembarcaran en ellas, expulsando a los escasos residentes argentinos, y sustituyeran su pabellón por la bandera de Su Graciosa Majestad Británica. La soberanía de los aproximadamente 11.500 kilómetros cuadrados insulares con menos de 2.000 habitantes en total (hasta ahora ciudadanos

británicos de segunda categoría) ha sido constante motivo de disputa que se llevó desde hace diecisiete años bajo los auspicios de las Naciones Unidas sin avance alguno y con no pocos momentos de fuerte fricción. El último y muy serio se produjo en 1976, aunque sin desbordar los cauces diplomáticos.

Recientemente comenzó a afirmarse que el área malvin encierra ricas reservas petrolíferas, aunque sus recursos actuales ciertos se centran en la pesca y en una ganadería ovina que se cifra en 650.000 cabezas. Los rumores despertaron atención y ésta creció al espe-

gentina se opone a la expulsión y la B. B. C. de Londres anuncia el envío de dos submarinos atómicos para reforzar las defensas isleñas. El incidente ocurre a mediados de marzo y la tensión entre los protagonistas sube tanto de tono que el día 29 del propio marzo la prensa inglesa recoge sugerencias de añadir un destructor y una fragata a los submarinos destacados, mientras los periódicos rioplatenses anuncian que la Flota argentina se dirige al Sur.

Con todo, el día 1 la tranquilidad en Buenos Aires es total. Los diarios de tarde hablan de ansiedad pública en torno al tema malvino y de posible me-



Con esta fotografía la prensa argentina denunciaba el empleo británico de bombas «sucias» contra la población civil de Puerto Darwin.

cularse con la posibilidad de que el Reino Unido estuviera preparando para 1983 la concesión de independencia a los archipiélagos para, después, adscribirlos a la Commonwealth.

En estas circunstancias de progresivo caldeamiento polémico se produce un hecho fortuito que tendrá luego importante trascendencia. Treinta y nueve operarios argentinos son contratados para desmontar una factoría ballenera, ya inactiva, en la isla San Pedro de las Georgias. El grupo desembarca y en el pequeño campamento de viejos barracones iza la bandera argentina y canta su himno nacional. Esto motiva una fuerte protesta inglesa y el anuncio de la pronta expulsión de los patrióticos obreros. Ar-

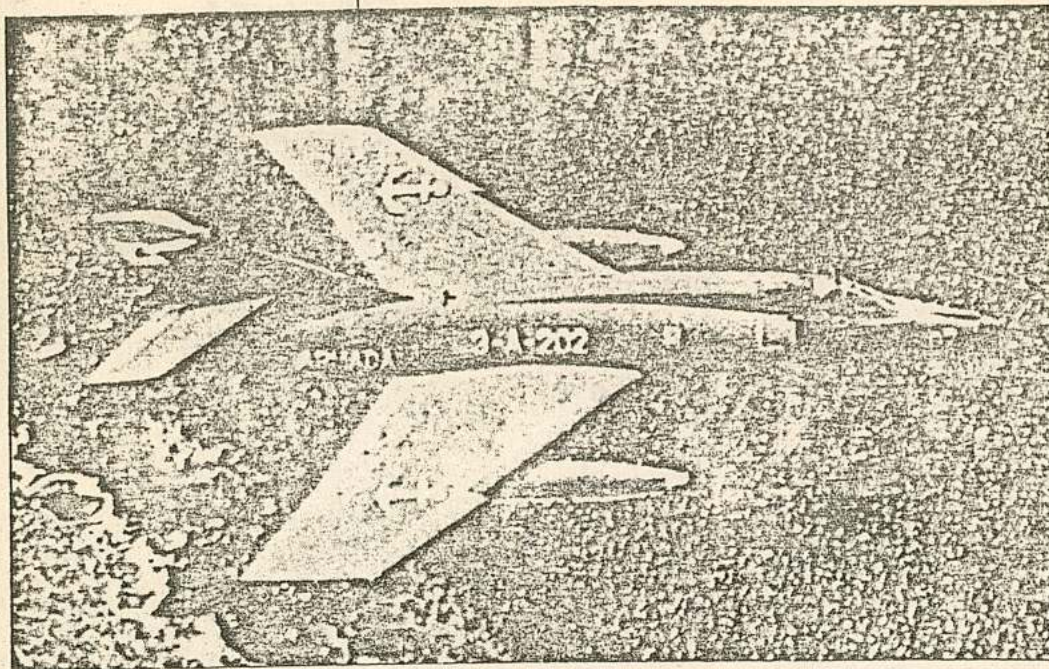
diación estadounidense. Pero nadie espera grandes novedades inmediatas.

### La ocupación de los archipiélagos

El día 2 de abril, en acción simultánea, fuerzas de Infantería de Marina argentinas desembarcan en los tres archipiélagos, ocupan los puntos clave y luego caen sobre los escasos marines ingleses de la guarnición, haciéndolos prisioneros, así como al Gobernador de la colonia. Las escaramuzas son pequeñas, pero en ellas muere un Capitán de Corbeta argentino y los ocupantes de un helicóptero, registrándose por lo

(Pasa a la pág. 23.)





Avión Super Etendart. Lanzó el Exocet que hundió al destructor británico «Sheffield», produciendo la mayor sorpresa tecnológica del conflicto.

menos otros dos heridos graves, todos ellos en enfrentamientos armados. A las 14,30 horas el Presidente, General Galtieri, anuncia la incorporación de todas las islas a la nación, se nombra para ellas un Gobernador Militar y los soldados y funcionarios ingleses apresados son evacuados incólumes a Montevideo.

La operación, dados los reducidos efectivos ingleses, que se evalúan entre 40 y 80 marines, parece a primera vista sencilla. Sin embargo, el hecho de que los dispersos objetivos se encuentren a distancias que oscilan entre 600 y 2.000 kilómetros del continente y la precisión de los movimientos efectuados de noche y con total sorpresa, revelan la existencia de planes argentinos minuciosamente preparados y eficazmente ejecutados. Es sorprendente, sobre todo, la disciplina de unas tropas que reciben fuego, tienen bajas y, pese a ello, no ocasionan ninguna al adversario porque habían recibido tajantes órdenes de evitar víctimas.

Como confirmación del notable planeamiento argentino se inicia a través de los medios de comunicación nacionales una estudiada e inteligentísima campaña psicológica, que toma como protagonista la bandera azul y blanca, el himno patrio y una canción de marcha sonora y pegadiza titulada «Malvinas Argentinas». A intervalos, las

emisoras de radio y TV transmiten un spot sencillo y emotivo que recuerda el juramento hecho por cada uno a la Bandera. Comienzan asimismo a difundirse sobrios comunicados numerados de la Junta Militar que informan de la situación y perspectivas con gran poder convincente. Las tesis oficiales son muy claras y podrían resumirse en los siguientes puntos:

- a) Las Malvinas son un pedazo de la Patria que se ha recuperado.
- b) La Argentina está dispuesta a negociar todo, incluso la retirada de fuerzas, porque no desea la guerra, sino resolver una cuestión estancada que afronta a su dignidad.
- c) El adversario no es el pueblo inglés, sino su gobierno, dirigido por la señora Thatcher.
- d) Lo único que no es negociable es la soberanía de las islas. Estas se defenderán a muerte, replicándose con contundencia a todo golpe que se le aseste.

La respuesta ciudadana es de inmediata adhesión. El mismo día 2, grupos entusiastas se reúnen en la Plaza de Mayo, donde el día 10 se registra, tal vez, la más grande concentración de la historia suramericana. Los edificios públicos, las casas particulares, las calles y los comercios se engalanan con los colores nacionales. La gente toda luce escarapelas argentinas sobre la camisa o el «sa-

co». Los dirigentes políticos y sindicales —incluso los que habían protagonizado disturbios sociales el 27 de marzo, se apresuran a efectuar manifestaciones de adhesión a las Fuerzas Armadas y a proclamar que aplazan sus contenciosos con el Gobierno. La Iglesia no disimula tampoco su apoyo y las crónicas de algunos capellanes destacados con las fuerzas expedicionarias, como el P. Fernández, se convierten en famosas.

## El paréntesis de la mediación USA

La réplica inglesa es fulminante. Se anuncia que Inglaterra envía una flota de 40 navíos con dos portaaviones que tardarán unas dos semanas en llegar al área en conflicto. El gesto aquí se considera arrogante y demasiado precipitado. A nadie se le oculta que la celeridad en la salida de tan grande expedición debe haberse efectuado en detrimento de la preparación operativa y de la debida acumulación de aprestos, equipos y medios logísticos.

Se concede gran importancia al papel mediador adoptado por el Secretario de Estado norteamericano, Haig, quien desarrolla una incansable actividad volando reiteradas veces a Buenos Aires, Londres y Washington. Hay confianza en él y se espera que las dos sema-

nas de plazo obligado mínimo sean suficientes para encontrar un punto de entendimiento que evite la confrontación. Pero la esperanza va perdiéndose a medida que se consumen estérilmente las reuniones.

El día 4 de abril se reúne el Consejo de Seguridad, que refrenda la protesta inglesa por 10 votos a favor, uno en contra (Panamá) y cuatro abstenciones (Rusia, China, España y Polonia). Tres días más tarde la Comunidad Económica Europea impone sanciones comerciales a la Argentina. El Reino Unido declara el bloqueo a ésta, se retiran ambas los embajadores y en duras notas Inglaterra fija como zona de exclusión el área de 200 millas que rodea a las Malvinas, replicando la Junta Militar con la amenaza de responder al fuego con el fuego.

Estas noticias, que son ampliamente difundidas por todos los medios, producen inquietud creciente en la población argentina, que teme verse aislada y sólo confía en el respaldo de los países americanos. Por eso se observa con expectación lo que puede salir de las reuniones del TIAR, que se demoran hasta el 21 de abril. El primer sondeo resulta positivo para la proposición argentina, que obtiene 18 votos favorables y sólo tres abstenciones (USA, Colombia y Trinidad). El día 28 de abril —después de rotas las hostilidades en las Georgias— los países del TIAR aprueban una resolución formulada por Perú, Brasil y Costa Rica favorable a Argentina por 17 votos a favor y las abstenciones de USA, Colombia, Chile y Trinidad. Inmediatamente, Haig hace una declaración de máximo apoyo a Inglaterra y de condena a la intervención argentina, manifestando que su nación apoya la causa sajona.

La opinión pública argentina sigue con preocupada atención los avatares diplomáticos. Entusiasmo el apoyo americano y enfurece la posición USA, pero el sentimiento patriótico continúa creciendo de modo severo y firme. Los comunicados de la Junta se suceden, el ritmo del caldeamiento psicológico aumenta progresivamente. La bandera sigue presidiéndolo todo, ahora con un slogan nuevo: «Unidos es más fácil». Cada día una multitudinaria representación de las comunidades extranjeras residentes en



Buenos Aires (española, italiana, japonesa, etcétera) ofrece en la Plaza de Mayo su adhesión.

En el terreno militar las cosas se efectúan con un cálculo y una minuciosidad casi prusianas. Día a día, los Oficiales y Suboficiales destinados en órganos burocráticos van siendo trasladados a Unidades operativas. Todos continúan desempeñando sus tareas, pero teniendo en el despacho el saco petate repleto, el casco, el uniforme y el arma listos para partir en el momento de recibir la orden. Progresivamente, son movilizados dos reemplazos de conscriptos. Y en todas las actitudes se aprecia un creciente orgullo desprovisto de todo exhibicionismo. Se dice que son 9.000 los hombres trasladados al Sur.

La vida ciudadana no sufre la menor alteración. La animación continúa normal en comercios, calles y espectáculos.

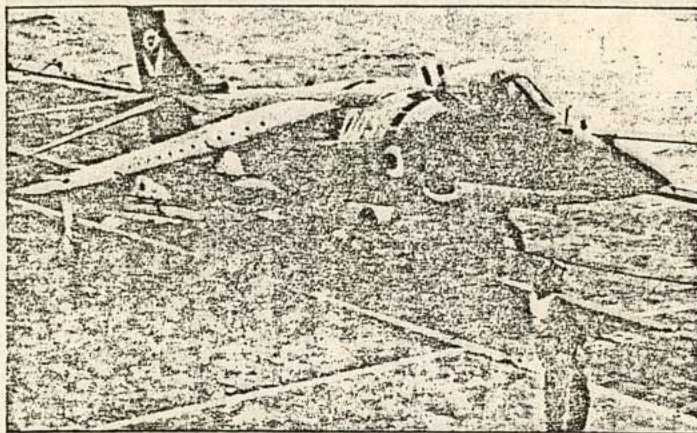
## Se inician los combates

A partir del 20 de abril la inquietud aumenta al saberse que la Flota británica está próxima. El domingo 25, la Junta Militar en su comunicado número 28 señala que dos helicópteros han atacado a un submarino argentino surto en el pequeño Puerto de Gríven, de las Georgias, y que éste es bombardeado, resistiendo su guarnición. Por la noche, el comunicado número 32 reconoce el desembarco inglés, aunque habla de repliegues calculados de la guarnición.

En el ambiente general, la pérdida de las Georgias se recibe sin gran emoción. La lejanía hacía pensar en que estaba calculada su pérdida desde el principio en los planes estratégicos como posible concesión al orgullo inglés. En medios militares se asegura que, en la isla reconquistada, Argentina ha dejado parte de una Compañía de Comandos llamados «Lagartos» que habrán de efectuar una constante lucha de guerrillas de gran desgaste.

La tensión en Buenos Aires crece, aunque su vida ciudadana no se altera. El día 28, el comunicado número 35 advierte la posible inminencia de un ataque inglés sobre Malvinas y el 36 alerta a la opinión para que ésta no dé por buenas mas que

las versiones oficiales de los acontecimientos, ya que Inglaterra está distorsionando la verdad a nivel internacional. Corren rumores por todos lados. Se difunde una nota inglesa anunciando que a las ocho horas del día 30 comenzará efectivamente el bloqueo militar de la zona de exclusión. El Canciller Costa Méndez, con sentido conciliador, niega que la Argentina haya rechazado la última propuesta de EE. UU., puesto que lo que se le plantearon fueron serias objeciones. Y Buenos Aires se va a la cama.



Avión Sea Harrier británico de despegue vertical. Una gran esperanza en la guerra naval pese a su altísimo costo. Sus primeras intervenciones han sido decepcionantes.

último día de abril con no pocas inquietudes en sus frentes.

## La batalla del primero de mayo

El sábado 1 de mayo el comunicado número 38 de la Junta Militar da cuenta de que a las 4,40 horas la Flota inglesa inició el ataque a las Malvinas. A partir de ese día los nuevos y sucesivos comunicados argentinos irán firmados por el Estado Mayor Conjunto.

Aunque las informaciones resultan contradictorias entre ambos contendientes, lo que parece quedar claro es que durante toda la jornada los aviones Harrier ingleses realizan sucesivas incursiones que tratan de destruir la pista de aterrizaje de Puerto Argentino y realizan cuatro conatos de desembarco helitransportado, rechazados todos por la artillería y los aviones Pucará azul celeste.

El episodio más destacado, porque refleja la debilidad del techo aéreo británico y la osadía de los pilotos argenti-

nos, lo constituye el ataque al portaaviones «Hermes», que, según manifestaciones difundidas por la B. B. C. de Londres, se produjo al ser amenazada la flota por una formación de «Dagger» y «Mirage III», que evolucionaron sin llegar a entrar en la distancia de tiro, pero atrayendo la atención sobre ellos de todas las baterías misilísticas de a bordo. En esas circunstancias aparecieron volando a ras de agua tres aviones «Pucará» (biturbo-hélice), que sin ser detectados por los radares se aproximaron a los bu-

ques, disparando sus misiles. Uno de ellos, además, en maniobra tipo «Kamikaze», se lanzó sobre la cubierta del «Hermes», descargando sobre ella todos sus medios y dejándola prácticamente inutilizada.

En conjunto, el desarrollo de las operaciones se consideró como un éxito por parte inglesa, pero sin ofrecer detalle alguno. Los argentinos manifestaron, en cambio, que habían logrado un amplio triunfo y publicaron partes detallados con horas y pormenores de ejecución. Entre ellos, se dio al público un croquis de los combates que se reproduce ilustrando este trabajo y que aún con mayores precisiones difundieron dos diarios bonaerenses y, en especial, el número 876 de la revista «Gente y Actualidad». Su examen permite valorar con claridad intenciones y formas de acción.

Las noticias son acogidas con júbilo inmenso por el público argentino, pero éste se transforma pronto en preocupación al saberse que entre los días 2 y 3 un submarino inglés torpedeó y hundió fuera de las

aguas de exclusión al Crucero de la Armada Argentina «General Belgrano», de 18.000 toneladas, reliquia venerable de la II Guerra Mundial que llevaba a bordo 1.043 hombres, de los cuales sólo unos 800 pudieron rescatarse. La grave conmoción de tal noticia es compensada pronto porque el día 4 despegó del portaaviones argentino «25 de Mayo», escoltado por Mirages, un avión «Super Etendart» armado de misiles Exocet AM39. Se aproxima a 20 millas de la Flota adversaria, lanza uno solo de sus ingenios y éste alcanza y hunde al destructor «Sheffield», una de las naves más modernas y costosas de las que recorren los mares. Sus 1.800 Tm. se van a pique, arrojándose al agua los 300 tripulantes.

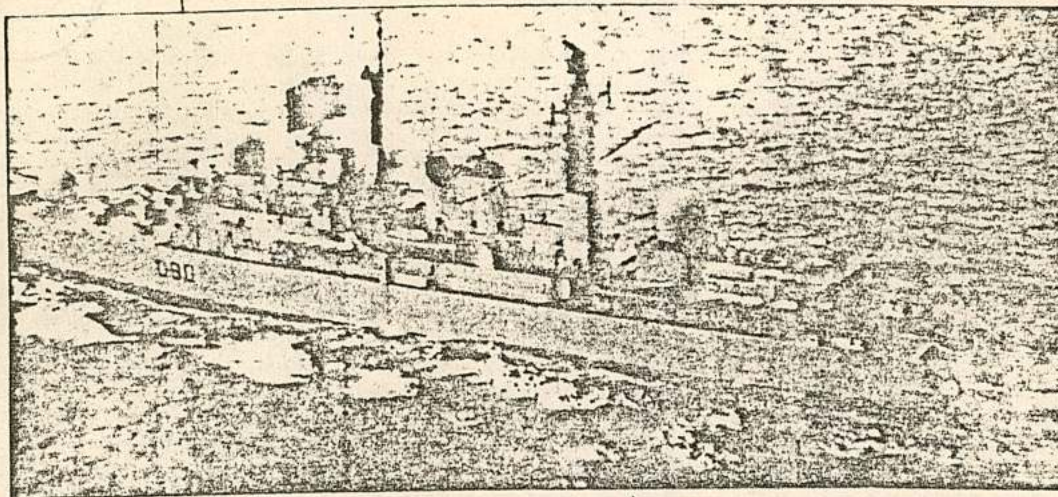
Al final, los partes argentinos proporcionados el día 5 resumen los daños infringidos al adversario en nueve aviones Harrier Sea King y cinco helicópteros abatidos, un destructor y una fragata hundidos y un portaaviones y tres fragatas seriamente averiados. Por parte propia sólo reconocen la pérdida de dos aviones y del crucero «Belgrano», citando únicamente como bajas once muertos y dieciocho heridos entre los habitantes civiles de Malvinas. El portavoz oficial, al ser preguntado por más daños sufridos por las Fuerzas Armadas argentinas, contesta escuetamente: «Eso que lo averiguen los ingleses.» Y los ingleses continúan durante una semana hablando de éxitos ofensivos, pero sin facilitar detalles.

## Reflexiones en torno a la primera batalla

Naturalmente, falta perspectiva para juzgar con cierto rigor los acontecimientos. Los datos obtenidos ofrecen sólo una relativa credibilidad. Probablemente los dos contendientes han exagerado volúmenes y cifras. La evolución del contencioso va a proseguir con alternativas variadas y no cesa el hostigamiento armado a las posiciones argentinas. Pero ya va siendo posible extraer consideraciones objetivas de lo observado.

Por de pronto, está bien claro que ARGENTINA tenía perfectamente planificada su acción con un objetivo estratégico y político final muy definido:





Destructor tipo «Sheffield» hundido el 4 de mayo. Ni sus sofisticados sistemas de radar, ni sus misiles Sea Dart, ni sus helicópteros pudieron prevenir o evitar el impacto de un único Exocet.

lograr el reconocimiento de la soberanía de las Malvinas. Y que para ello su política militar se propuso ocupar los tres archipiélagos con idea incluso de ceder los dos menores, pero resistiendo a toda costa en las tierras malvinas. Hasta ahora, la situación general parece responder a sus deseos.

Gran Bretaña, por su parte, lanzó una poderosa flota prometiendo un fulminante castigo a los intrusos de su lejano feudo colonial. El pesado convoy naval, precipitadamente aprestado y transportando tropas cuyo equipo debe resentirse del apresurado embarque, tardó dos semanas en llegar a la zona conflictiva, y un mes y medio después de iniciar el periplo sigue en las difíciles aguas del Atlántico Sur sometido a un fuerte desgaste. Como trofeo logró recuperar las desiertas Georgias, pero fue rechazado en las Malvinas. El saldo, hasta el momento, no se le ofrece muy favorable.

En el terreno de la tecnología militar se han producido sorpresas muy notables. La primera, la escasa capacidad ofensiva y defensiva de la Armada inglesa, que puede ser apta para proteger rutas navales, pero no parece muy adecuada para operaciones anfibias. Sus dos portaaviones tienen muy poca capacidad de transporte —de 10 a 20 aviones en total—, lo que numéricamente la pone en inferioridad aérea ante sus adversarios. Los «Harrier», que tratan de venderse carísimos a todos los continentes, han proporcionado unos primeros resultados desalentadores. Los grandes bombarderos «Vulcan» difícilmente pueden operar des-

de la base de Ascensión. Los sistemas misilísticos antiaéreos no lograron frenar las incursiones de aviones incluso de hélice argentinos. Y, lo que es más grave, el hundimiento de un destructor por un único misil Exocet plantea un enorme problema de seguridad a la Flota entera. Los potentes submarinos de ésta sólo intervinieron para atacar a un obsoleto crucero. Con todo, tal vez lo que más merezca destacarse es que al haber sustituido por misiles la artillería convencional de los navios parece que éstos carecen de la potencia necesaria para crear la cortina de fuego duradera que reclamaría un eventual desembarco anfibio o helitransportado. Salvo que se lanzaran cargas nucleares, claro.

En el terreno de la acción psicológica la suerte es varia. En el área internacional, Inglaterra, dominadora o influyente en las más poderosas cadenas informativas, ha logrado difundir sus versiones con mayor verosimilitud, aunque sin el respaldo de prueba alguna. Dentro de su territorio tampoco su actitud debe haber sido débil cuando el Gobierno logró una brillante victoria electoral. Pero en este terreno difícilmente podrán haberse siquiera aproximado a los logros internos conseguidos por Argentina, pues pocas veces podrá darse el caso de un pueblo tan identificado con los objetivos bélicos y tan rebosante de patriotismo como el suyo. La cohesión y el espíritu de victoria contagian a militares y civiles.

Dentro del terreno político-diplomático, la ventaja histórica, al menos momentánea, no

puede ignorarse. Ciertamente es que los Estados latinoamericanos —excepto Chile y Colombia— respaldaron a la Argentina y que el apoyo de la COE a Inglaterra ya no es tan rotundo como hace un mes. Pero lo que sí está claro es que el gigante nor-

teamericano tomó partido abiertamente por su aliado sajón, lo que puede suponer información, buques y aviones que desequilibren la balanza bélica. Más aún cuando Rusia permanece a la expectativa tanto porque los argentinos se niegan a recabar su auxilio como porque ella sólo beneficios puede conseguir de la pelea intestina entre naciones occidentales.

El pulso de las Malvinas no ha terminado, y su final es aún incierto, pero por lo ya ocurrido puede afirmarse que Argentina no ha claudicado ante los primeros combates ingleses, su bandera prosigue ondeando en las islas hostigadas por intermitentes bombardeos anglosajones y en su retaguardia las masas ciudadanas corean canciones de marcha que animan a la lucha y empapan sus calles con letreros que rezan: «¡Y ahora a muerte... I'm sorry!»

Lo cual es muy significativo. ●

## Marcha de las Malvinas

*I*  
¡Tras su manto de neblinas,  
no las hemos de olvidar!  
"¡Las Malvinas, argentinas!",  
clama el viento y ruga el mar.  
Ni de aquellos horizontes  
nuestra enseña han de arrancar,  
pues su blanco está en los montes  
y en su azul se tiñe el mar.

*II*  
Por ausente, por vencido  
bajo extraño pabellón,  
¡ningún suelo más querido,  
de la Patria en extensión!  
¿Quién nos habla aquí de oído,  
de renuncia, de perdón?  
¡Ningún suelo más querido  
de la Patria en extensión!

*III*  
¡Rompa el manto de neblinas,  
como un sol, nuestro ideal!  
"¡Las Malvinas, argentinas,  
en dominio ya inmortal!"  
Y ante el sol de nuestro emblema,  
pura, nítida y triunfal,  
brille, ¡oh Patria!, en tu diadema  
la perdida perla austral.

### Coro

Para honor de nuestro emblema  
para orgullo nacional,  
brille, ¡oh Patria!, en tu diadema  
la perdida perla austral.

Carlos Obligado

## Historia de la Marcha

Un grupo de patriotas que constituyeron en 1939 la Junta de Recuperación de las Malvinas, de la que fueron presidentes los doctores Antonio Gómez Langenheim y Alfredo L. Palacios, lanzaron la iniciativa de realizar un concurso para seleccionar la mejor composición poética y musical que sirviera como Marcha de las Malvinas. Fue así que se adoptaron los versos del poeta Carlos Obligado con la música del compositor José Tieri. La Marcha fue estrenada en las calles de Buenos Aires el 3 de enero de 1941, al cumplirse un nuevo aniversario de la usurpación británica de las islas, durante una manifestación popular de repudio al atropello de 1833. Posteriormente, la Marcha sería grabada por la banda del Regimiento de Patricios con el Coro Polifónico Juan de Dios Filiberto. Al desaparecer la Junta de Recuperación, se constituyó el instituto de las Islas Malvinas y Tierras Australes Argentinas, que editó su partitura en 1968 con la aprobación del Ministerio de Educación de la Nación, y que ahora autorizó especialmente la inserción de esta nueva edición como una separata de la Crónica Documental de las Malvinas.



ESCUELA DE GUERRA NAVAL

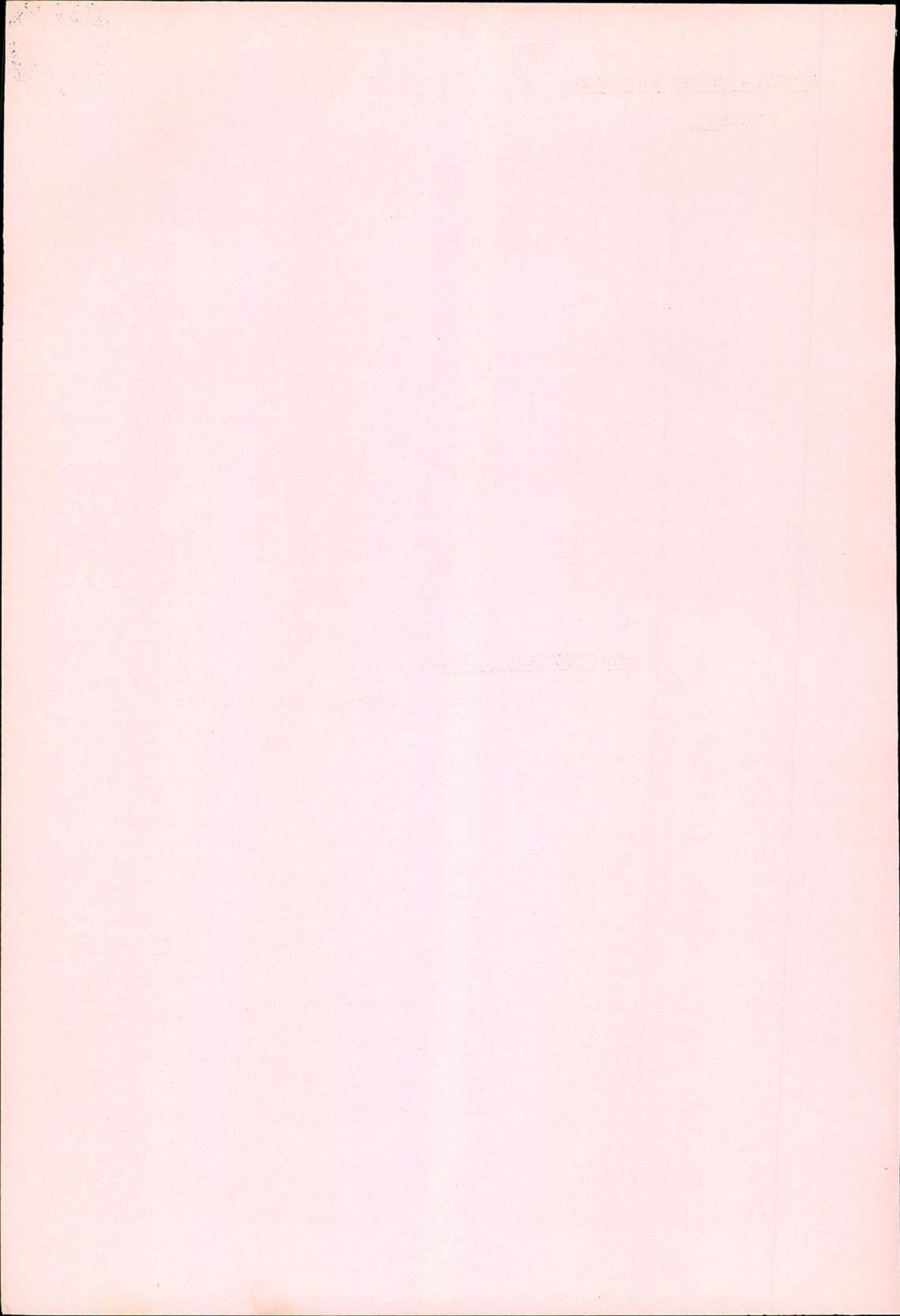
TACTICA



THE FALKLAND CRISIS

(Navy International JUL. 82)







# The Falkland Crisis



## Operations and Progress after May 7

As we went to press last month the news which stunned not only Britain, but NATO and many other navies around the world, was the sinking of HMS *Sheffield*. Undoubtedly the loss of such a fine ship and the tragic death of 20 of her crew was a considerable blow to Admiral Woodward the British TF Commander in the South Atlantic. The loss of the ship, however, could not be allowed to affect the role of the Task Force and so it was only to be expected that Britain would continue to enforce the Total Exclusion Zone with every means at her disposal. As had been previously stated the objective was to ensure that Argentina complied with UN Resolution No 502 and withdrew her troops from the Falklands, before discussions regarding the future of the islands could be embarked upon. Britain's strategy to make Argentina comply with the resolution comprised three major efforts: (a) Diplomatic (through the auspices of the United Nations once the United States had decided to support British efforts to enforce the Resolution); (b) Economic (through the offices of the EEC which agreed to support Britain and impose a trading ban on Argentina); (c) Military (through the enforcing of a total blockade on the Falklands with the option, if necessary, of a military landing on the islands to compel Argentina to withdraw her forces from the islands).

After the events recorded last month, it was becoming plain that if Britain was going to ensure that Argentina complied with the UN Resolution, then some considerable force would probably have to be used.

That the blockade was beginning to have an effect on the resupply of Argentine troops on the islands could be seen to have been evident from the subsequent reaction which led to the loss of the *Sheffield*, although to a certain degree it must also have been in retaliation for the sinking of the Argentine cruiser *Belgrano*, although the Argentines themselves claimed that they were having — 'practically no problem' in supplying their troops on the Falklands, and later in the campaign this to some extent appeared true.

With the loss of the *Sheffield* and the ineffectual efforts to reach a settlement on the diplomatic front, the mood in the British Task Force changed dramatically. It was summed up by one of the crew of HMS *Invincible* in an interview with a Daily Telegraph reporter on the ship: 'If we have not really done anything after what happened to the *Sheffield*', said the crewman, 'how can we face going home after the way we were sent off from Portsmouth'.

As if to emphasize that the TF was not going to let up in its efforts, sea and air patrols were carried out with even greater intensity. But the strain on men and machines was bound to tell sooner or later. On May 6 two of the TF Sea Harriers were lost during a morning patrol. It appears that the aircraft just disappeared in conditions of poor visibility with low cloud and may have crashed or collided, but a subsequent search failed to find any trace of the aircraft, and the exact cause of loss has not been ascertained, except that they were not lost as a result of Argentine action. This left the TF with 17 effective Sea Harriers.

Meanwhile further forces in the UK were being prepared for the Falklands with the Cunard container ship

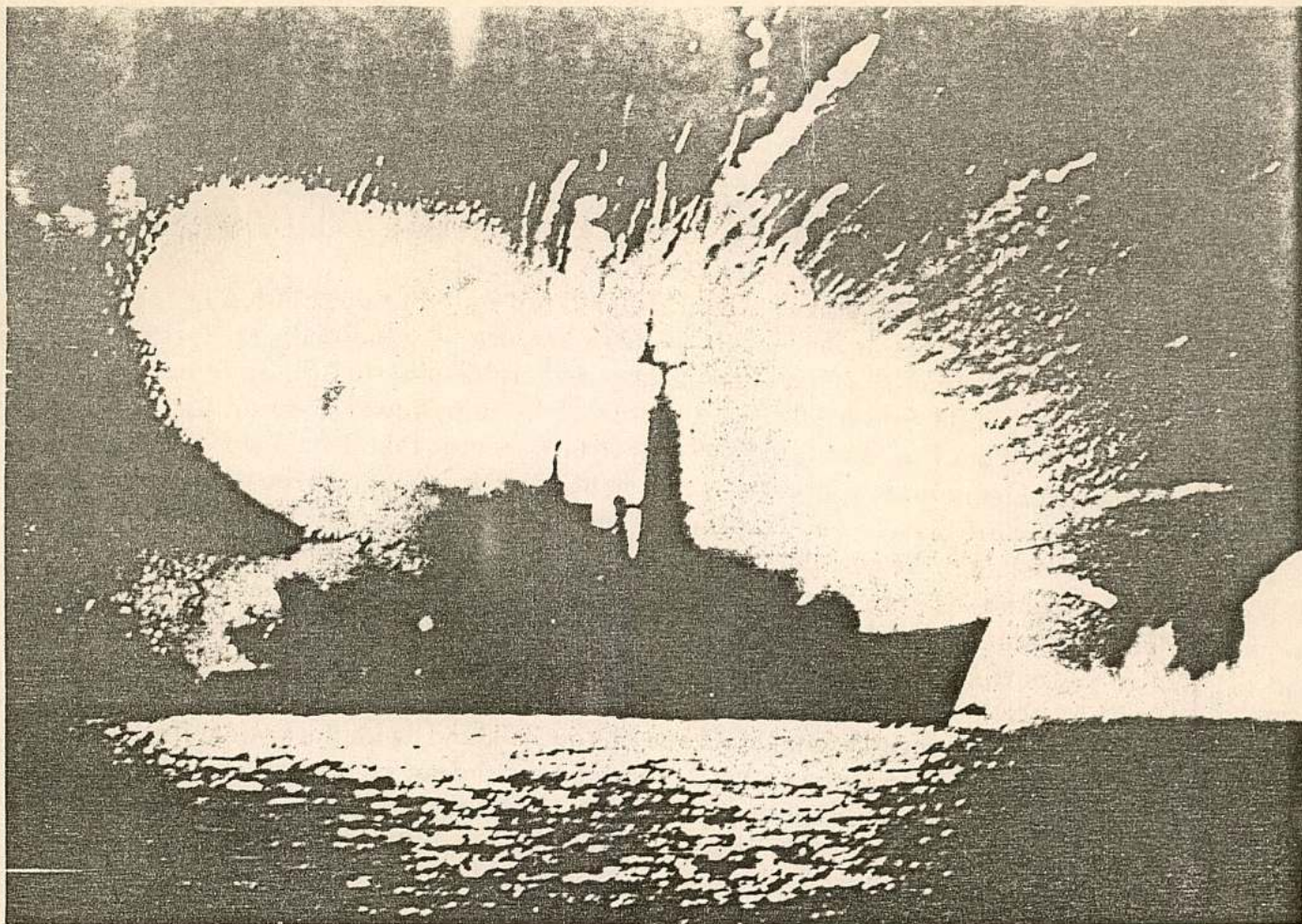
*Atlantic Causeway* being converted to carry a newly formed Sea King Squadron, No 825, and possibly being fitted with a ski-ramp to launch an undisclosed number of RAF Harriers which she transported to the Falklands.

Other ships under construction for the RN and nearly completed were hurriedly being brought forward, among them the Type 42 destroyer HMS *Liverpool* (a sister of HMS *Sheffield*) and HMS *Illustrious*. At Swan Hunters Yard 300 unemployed men were taken on to help speed up work on *Illustrious*. At Yarrow Shipbuilders 1,000 men worked overtime to help complete HMS *Brazen* sooner for commissioning early in June.

May 7, saw yet another tightening of the British blockade against Argentina in an effort to force a diplomatic solution and as an increase in the military build-up, with the announcement that any Argentine warships or aircraft found beyond 12 nautical miles from the Argentine coast would be considered hostile and liable to attack. In a record breaking nine-hour flight 20 Harriers (including an undisclosed number of Sea Harriers) flew from the UK to Ascension Island, being refuelled in-flight by RAF Victor tankers. The RAF Harriers had been rearmed to carry SIDEWINDER missiles and air-ground rockets. From Ascension Island the Harriers were transferred south to the Task Force. Other support which arrived for the TF included the destroyer *Exeter*, frigate *Battleaxe* and three other warships.

On May 9 the Royal Navy intensified its efforts and TF frigates carried out an interdiction bombardment with 4.5in guns against radar and other military establishments





*HMS Antelope, a Type 21 frigate was severely damaged on May 23 while on guard duty in the Falkland Sound. A 500lb unexploded bomb became lodged in the engine room and while a bomb disposal officer was attempting to defuze the weapon it detonated starting a severe fire, to which the frigate fully succumbed.*

on the Falklands, supported by helicopters and Sea Harriers. The object of the raid was to prevent the build up of Argentine strength on the islands, disrupt military communications and intelligence and generally to spread alarm among the young Argentine conscripts and to wear down their strength by keeping them continually on the alert.

During the day two Sea Harriers on patrol spotted the fishing vessel *Narwhal* at 1130 GMT which was considered to be on an intelligence gathering mission inside the blockade zone and dropped small bombs alongside the vessel and strafed it, after which it surrendered. A helicopter landed a RN boarding party on the *Narwhal* and took the crew of 30 prisoner, 14 of them wounded. One wounded Argentine died later. The *Narwhal* had already been warned off a week previously by one of the TF frigates.

It had been hoped to save *HMS Sheffield* so that a detailed examination could be made of the damage she had sustained in the missile attack, and from which conclusions could be drawn for any future design. To this end the destroyer had been taken in tow by a frigate with the aim of getting her to a safe anchorage. However, in the heavy seas prevailing off the Falklands the *Sheffield* finally had to be scuttled on May 10, together with the *Narwhal* which under control of the RN boarding party, also went

down the same day south east of the Falklands, the boarding party and 11 unhurt crew being taken off just after midnight local time on May 10. In spite of the losses, however, the TF continued to build up pressure on the Argentine garrison bombarding positions around Port Stanley for the second successive night on May 10. Meanwhile the UN Secretary General, Senor Javier Perez de Cuellar, continued to press ahead with his efforts to seek a negotiated peaceful settlement, holding a series of meetings with separated officials from Argentina and the UK. The Secretary General felt that progress had been made with talks, but in the end they regrettably came to nothing, the main stumbling block seeming to be the Argentine refusal to withdraw from the islands together with any arrangements that would have to be made for an interim administration.

Privately, however, the British Government seemed to hold out little hope for the success of Senor Perez de Cuellar's efforts and continued to enforce the blockade.

In spite of the tight British blockade the Argentines continued in their attempts to force it and circumvent the TF. On May 11 the RN frigate *Alacrity* attacked the Argentine supply ship *Isla de Los Estados* (9,000grt) trying to run the blockade under cover of darkness, in bad weather with low cloud and poor visibility. The ship was caught in the Falkland Sound which separates the two



main islands of East and West Falklands.

On May 11, recognizing the probable escalation of the military conflict, Argentina under Article 51 of the UN Charter concerning the right of self-defence declared a vast area of the South Atlantic a war zone in which any British aircraft or ship flying the British flag would be regarded as a threat and considered hostile and therefore liable to attack.

Further British reinforcements sailed for the South Atlantic on May 12, the converted liner *Queen Elizabeth II* (*QEII*), leaving Southampton at 1500 GMT with over 3,000 men of the Gurkhas, Scots Guards and Welsh Guards (603 men of the 1st Bn) and a considerable quantity of equipment. While in dock she had been fitted with two helicopter landing pads covering the outdoor swimming pools. This turned out to be the largest troop embarkation since the end of World War II.

May 12 saw more action in the Falklands with yet another new missile successfully proven in action. The action involved two waves of four Skyhawk fighter bombers escorted by Mirage fighters which came in low (about 50 feet above the surface of the sea) to attack two units of the TF, one thought to be the Type 42 destroyer *HMS Glasgow* and either *HMS Brilliant* or *Broadsword*. The ships were sailing about 20-30 miles east of Port Stanley, the *Glasgow* to bombard Argentine positions escorted by the Type 22 frigate. The attack took place just after 1630 GMT and as the first wave came in the frigate fired SEA WOLF missiles which brought down two of the attacking Skyhawks. A third Skyhawk plunged into the sea as it took evasive action. The fourth Skyhawk managed to evade the ships' air defences and escaped without damage. During the second wave a Skyhawk managed to score a direct hit on the *Glasgow* with a 1,000lb bomb which fortunately due to a faulty fuze, failed to detonate and passed through the hull and out on the other side above the waterline without exploding. All power was lost on the *Glasgow*, but was soon restored and the holes blocked up.

Owing to bad weather, low cloud and poor visibility, the TF Sea Harriers had been unable to provide a CAP and the ships were forced to rely on their own weapons systems to defend themselves against the Argentine aircraft. The action was followed by further Argentine air raids made against the Task Force.

The successful SEA WOLF attack followed an earlier success by yet another British missile, the SEA DART, one of which had destroyed an Argentine Puma helicopter a few days previously, on May 9.

During the day (May 12) a Sea King helicopter on ASW patrol was forced to ditch in the sea, but the crew of four were rescued.

A tragedy of a different kind struck the British force on May 12 when the Captain of the converted hospital ship *Uganda*, Captain Brian Biddick, who had been flown back to the UK after being taken ill and having an emergency operation on his ship, died suddenly.

By the end of the week of May 10 diplomatic moves suddenly took a dramatic turn with the recall on May 14 of the British Ambassadors to the United Nations and United States who were deeply involved in efforts to reach

a peaceful solution to the Falkland crisis. While the British Prime Minister held urgent discussions with her diplomatic representatives, the TF continued its bombardment and softening up of Argentine positions on the Falklands with the Sea Harriers.

During these operations a British raiding party of 120 marines under cover of a bombardment carried out by the destroyer *Glamorgan* was landed by helicopter on Pebble Island (to the North of West Falkland) during the night of May 14 and destroyed an ammunition dump and wrecked 11 aircraft on the islands 500 yard grass airstrip.

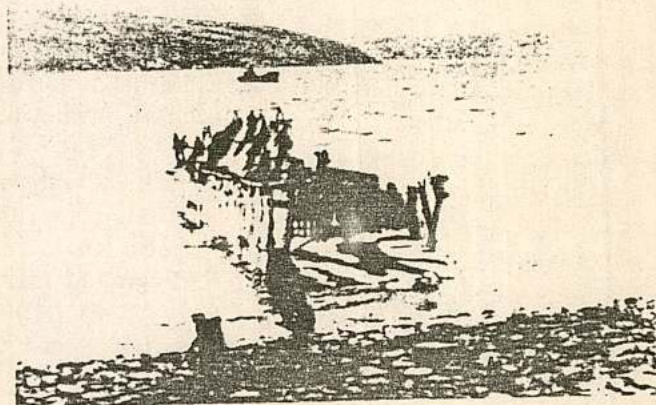
The aircraft destroyed included 6 Pucara, 4 light aircraft and a Skyvan STOL supply aircraft.

The raiders returned to the Task Force on May 15 with two minor casualties. An artillery captain landed with the Commandos to direct the bombardment with pin-point accuracy. At one point over 100 shells were fired in half an hour making it the most intensive British bombardment since World War II. Included in the commando's targets were mobile radar stations used to direct the Argentine air attacks on the Task Force described above.

On Sunday May 16 Sea Harriers from the carrier *Hermes* engaged in continuing operations to enforce the blockade of the Falklands sighted two Argentine supply ships attempting to run the blockade in the Falkland Sound. The Sea Harriers bombed and strafed the Argentine vessels, one, of which, the *Rio Catarana* was abandoned and sunk. The other supply vessel, the *Bahia Buen Suceso*, escaped damages as she was tied up alongside the civilian settlement in Fox Bay, and was not, therefore, bombed. The Sea Harriers returned safely to the *Hermes*, one with minor damage to its tail as a result of anti-aircraft fire from the *Bahia Buen Suceso*.

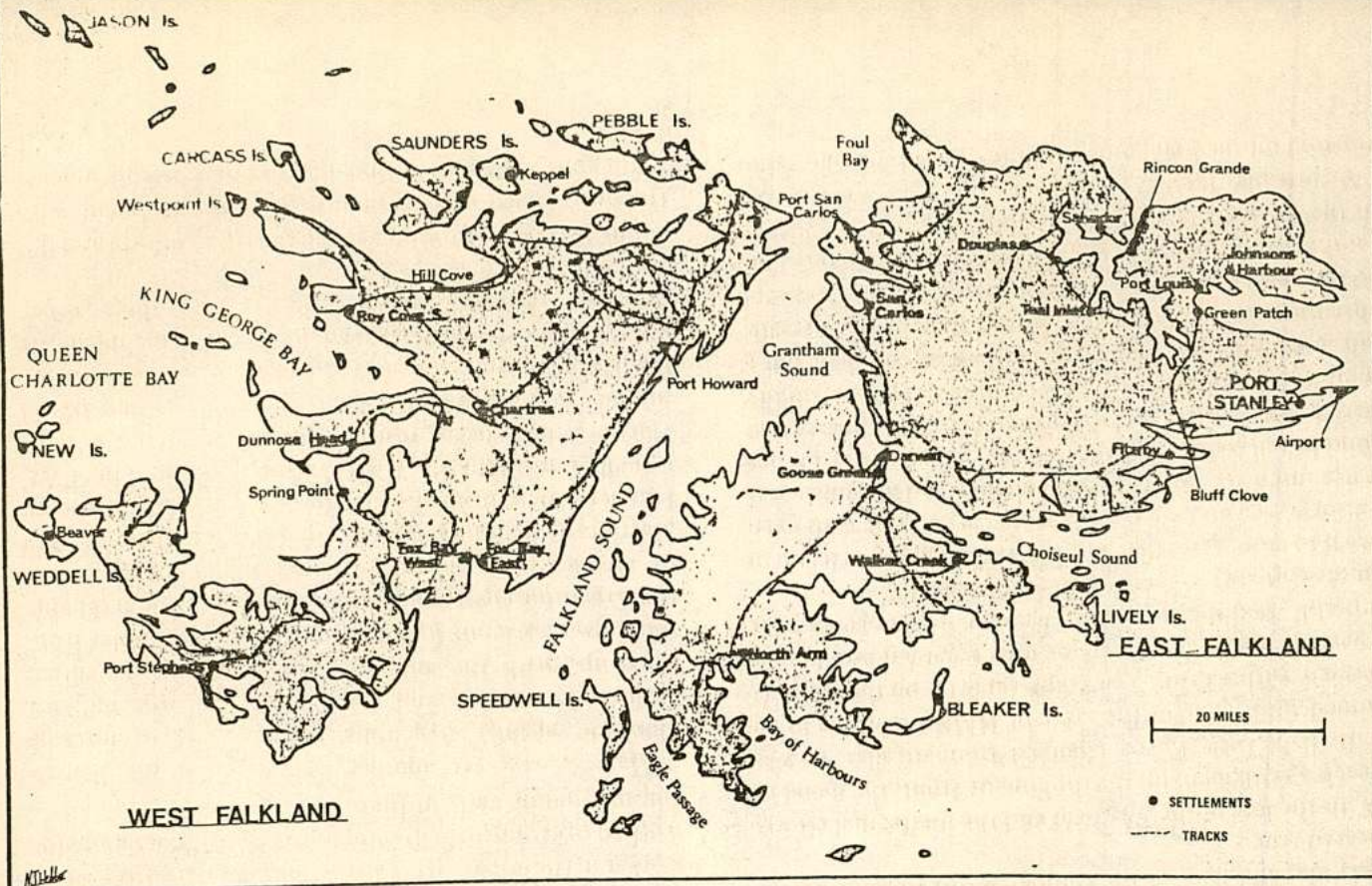
Meanwhile on the economic front the UK was given further support when all 10 members of the EEC voted to renew trade sanctions against Argentina as from May 17, the day the previous sanction Agreement ended. However, Italy and Ireland agreed to the sanctions on a different legal basis to the rest of the Community and

Royal Marines came ashore from a landing craft to reinforce the British bridgehead at Port San Carlos.



JULY 1982





although in the end Britain gained the support she wanted, it was for one week only, and not for a whole month, as she had originally hoped.

By May 19-20 the unofficial deadline set by the British Government and accepted by the UN Secretary General for any meaningful progress to have been made towards peaceful solution, it was becoming obvious that those discussions were going to founder, as had all previous attempts to solve the dispute. As the diplomatic phase began to collapse the British Task Force in the South Atlantic was put on 'Red Alert' ready to launch an amphibious assault on the Falklands. Large numbers of marines and paratroops began to transfer from the transports which had brought them to the Falklands into the amphibious assault ships in preparation for the landings which it was then obvious would take place in the very near future.

As if to emphasize the possibility of an imminent landing on the Falklands British newspaper reports indicated that a number of senior officers of the Royal Marine Commandos from Fleet HQ at Northwood were thought to have flown out to Ascension Island on the evening of May 19. These officers would form the basis of an HQ staff on the Falklands once a sizeable number of troops were ashore. The staff included intelligence officers, service advisers and clerks.

The 20 Harriers brought to the Falklands aboard converted container ship *Atlantic Conveyor* to bolster the British air strength were transferred to the carriers. This was a mix of Sea Harriers and RAF ground attack Harriers, the latter modified to carry SIDEWINDER missiles which would enable them to undertake combat air patrols over the Task Force.

On May 20, when it became obvious that the UN Peace mission had collapsed, the British Government gave Rear Admiral Sandy Woodward, the British Task Force Commander in the South Atlantic, an open brief to launch hit-and-run raids on the Argentine garrison in the South Atlantic. Rear Admiral Woodward was given complete freedom to exploit every opportunity which presented itself.

The inevitable escalation of the military aspect of the crisis which would obviously lead to a requirement to make more ships available for the Task Force lead the Prime Minister of New Zealand, Mr Muldoon, to offer Britain the services of the one frigate New Zealand currently has operational (others are under refit or modernization), the *Canterbury*. The *Canterbury* was made available on the understanding that she would not be used directly in the Falkland crisis, but could be deployed anywhere else requested by the British MoD in order to release RN frigates for service with the Task Force. She sailed from Hong Kong for the Indian Ocean on May 23.

During the night of May 20-21 the Commander of the Task Force began carrying out his orders. Under the guise of a series of raids, reported in Britain as raiding parties, aimed at destroying Argentine fuel, ammunition dumps and military stores, a substantial force of men (some 2,500 troops) was put ashore two hours before dawn at the remote spot of Port San Carlos, a major centrally placed inlet on East Falkland with a good, sheltered anchorage some 50 miles from Port Stanley; a site essential for the build up of a secure bridgehead to maintain the British amphibious assault and to support further land operations whose ultimate objective would obviously be the taking of Port Stanley, the Island's capital.



The area around Port San Carlos is undulating country-side with a sandy beach to the West and hard ground around the settlement itself. Behind the settlement (which housed about 20 people) the ground is rough, soft and hilly with going difficult for troops. To the north the country was very hilly with no trees, and little cover, except for hollows, but to the South the ground was harder and led naturally to what seemed obviously the troops next target — the airstrip at Goose Green.

To cover the landing parties at San Carlos units of the Task Force carried out bombardments in the vicinity of Port Stanley and against targets in the San Carlos area, while Harriers carried out raids on targets in the Fox Bay area.

Unfortunately during the transfer of troops to the assault ships a Sea King helicopter was forced to ditch with the loss of 21 men, nine being saved.

On the evening of May 21 the British Defence Secretary, John Nott, announced that British forces had established a firm bridgehead on the Falklands, indicating that the raids had been, in fact, a major amphibious assault with the intention of building up a ground force of sufficient strength to recapture the islands. Mr Nott went on to state that RM Commandos and men of the Parachute Regiment, together with artillery, air defence and other defence equipment had landed unopposed. Defensive equipment landed included RAPIER surface-air missiles, essential for protecting the vulnerable troops from anticipated Argentine air attack, 105mm artillery and SCORPION light tanks.

The first phase of the operation had been carried out four days previously to the main landing when the Argentine Commander on the Islands was deceived into expecting the main landing to take south of Port Stanley on the East Coast. The real landing site at Port San Carlos, with high ground suitable for surface-air missiles to be sited on a defensive perimeter and with a track to Port Darwin and Goose Green, had been chosen some weeks before. The only way the Argentine forces could counter a landing at Port San Carlos was to move forces by truck and helicopter to the area.

The deception worked perfectly for three of the beaches chosen for the landing were deserted while only on the fourth beach was any resistance met, where about 30 Argentine troops using British supplied BLOWPIPE missiles managed to shoot down two Gazelle helicopters before they surrendered to the British forces.

Soon after the initial landings Argentine ground forces counter attacked supported by aircraft. Five British frigates protecting the landings in the Bay came under Argentine air attack from Mirages and Skyhawks and two of the British frigates were said to have been seriously damaged during this action. One of these was the frigate *Ardent* which had been hit by several bombs out in the Falkland Sound and suffered 22 missing, presumed dead, with a further 30 of her crew injured.

The *Ardent* was hit by 14 rockets and bombs and caught fire. Despite intensive efforts by damage control parties to contain the fire, her aluminium superstructure swiftly melted into a molten mass of metal in the intense heat, making it difficult for damage control parties to get at the

seat of the fire. The frigate continued to burn and after being hit finally sank.

The units of the Task Force supporting the amphibious operations in the Sound were in a difficult position. It was essential that they remained in that position both to support the troops ashore, bombarding enemy positions when called upon to do so, and to protect the vulnerable merchant ships in the anchorage from Argentine air attack while they unloaded the enormous quantities of supplies and equipment essential to the troops ashore. However, the Falkland Sound is relatively narrow, varying between five and ten miles wide, giving the warships little room in which to manoeuvre, especially among the mass of shipping supporting the amphibious operations ashore.

By May 23 the British troops totalling over 5,000 men of 3 RM Commando Brigade (40, 42, 45 RM Commando) and 2nd and 3rd Bns of the Parachute Regiment were busily digging in, the missile defences had been sited and an area of some 10 square miles was being consolidated. The whole of the San Carlos Bay area had been secured with losses far fewer than had been anticipated, the majority being RN personnel which had been suffered as a result of Argentine air attacks on units in the Bay. The greatest losses occurred in HMS *Ardent*, but in addition other units suffered two missing, presumed dead, and 25 injured. Three Marines died when the Gazelles were shot down, and one Harrier pilot was missing after an air raid.

It was inevitable that in such an operation losses had to be suffered, and indeed in an amphibious operation in confined waters carried out in winter, losses must be accepted. The astonishing fact is that with the ferocity of the air attacks against the bridgehead, the losses were so low. It was an outstanding example of the courage and discipline shown by the British forces and a tribute to the exceedingly high degree of training which these professional forces are put through. Without that, and the degree of self-discipline and initiative shown by all British ranks, losses might have been very severe indeed.

While the British troops consolidated their position ashore, aircraft of the Task Force continued to carry out raids on Argentine positions elsewhere in the islands, among them Goose Green airstrip, where several Pucara aircraft were wrecked. A further expected major air counter attack against the bridgehead failed to materialize, although the Argentines carried out light air raids, during the course of which Skyhawk aircraft ditched their bombs in the sea and turned for home.

These attacks indicated a change in Argentine tactics. Previously the Skyhawks had attacked in waves of four covered by the Mirages. These big formations had suffered heavy losses, however, particularly on May 21 when at least 14 out of a total of 30 attacking aircraft were shot down. It is also possible that a number of these were damaged and may have been forced to ditch on the return journey. If so it is unlikely that the pilots could have been saved for Argentina operates no SAR organization.

As a result these large formation attacks gave way to sneak attacks by the Skyhawks carried out in pairs.

Two Sea Harriers on routine patrol in Choiseul Sound sighted the 500-ton Argentine *Monsoonian* which had been commandeered from the Falkland Islands Company and

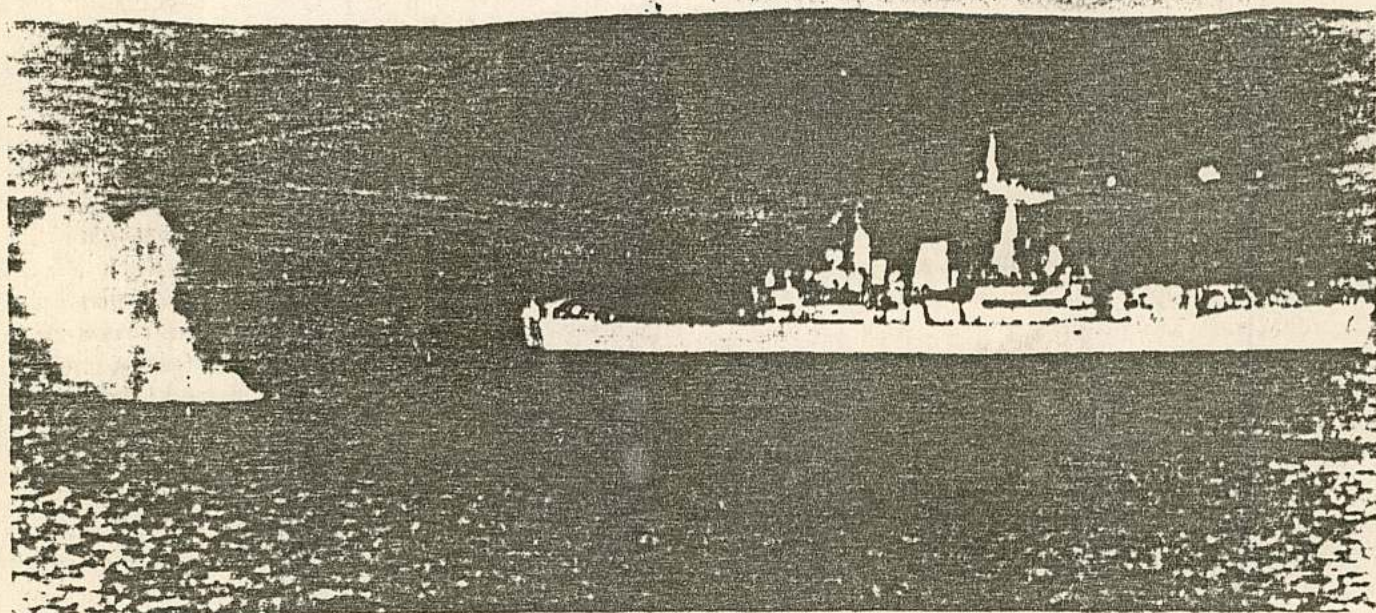
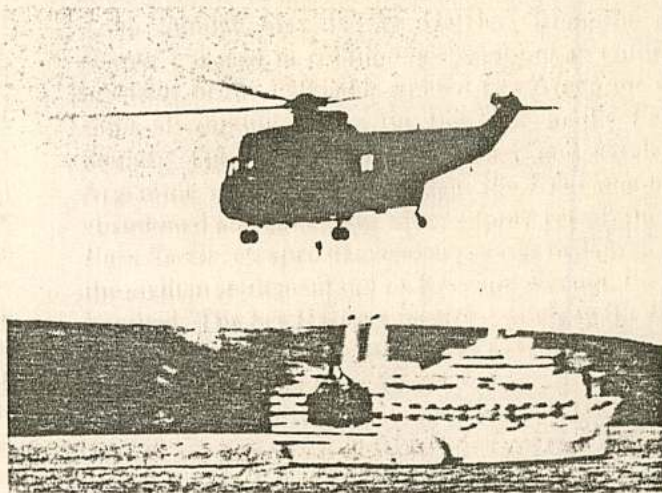
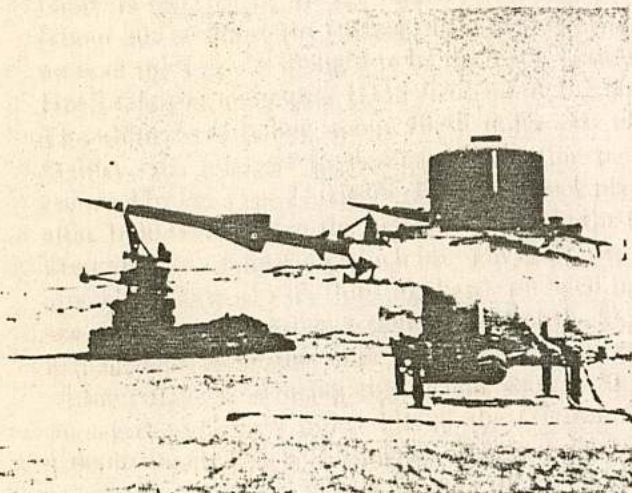




On the right an aerial view of Port San Carlos showing the settlement area and main air entrance to the Bay where British troops made their initial landings before dawn on May 21. One of the most urgent priorities during the establishment of the bridgehead was the need to set up a land-based anti-aircraft missile defence system in the hills surrounding Port San Carlos. The British Aerospace RAPIER missile system was one of the most precious assets of the land commander, and soon proved its value during Argentine air attacks.

One of the major requirements of an amphibious assault is to establish a strong bridgehead as soon as possible. Sea King helicopters flew round the clock ferrying supplies from the assault transports in San Carlos Bay to the troops ashore. Below right a Sea King passes the troopship Canberra in the Bay.

Helicopter operations were only delayed while Argentine air attacks were in progress. Bottom an EXOCET armed frigate of the 'Leander'-class (possibly HMS Argonaut) suffers a near miss during an air attack.





# Air Power - A decisive element in the Falklands Campaign

by Brian Walters



The extraordinary conflict in the South Atlantic over the Falkland Islands is being watched with professional interest by the armed forces of many nations.

Many hitherto untried weapons, ships and aircraft have, for the first time, been used in anger and important lessons have had to be learned by both Britain and Argentina. In particular the part played by airborne forces has been a major influence on the outcome of the conflict.

When it became clear that sabre rattling would give way to real armed warfare, the forces of both sides began to take their toll. A high-flying Canberra light bomber of the I Escuadron de Bombardeo was shot down and thereafter while the ships of the Task Force remained to the East of the Falklands, they were beyond the effective range of most Argentine Air Force combat aircraft.

In the Super Etendard however, the Argentine Navy possessed a modern and potent weapon system, and in crippling the Type 42 destroyer HMS *Sheffield*, it demonstrated that aircraft flying at very low level could pose a serious threat to the British forces. It was a lesson quickly learned by the Argentine Air Force.

The Super Etendard is the only really modern front line combat aircraft operated by the Argentine forces; most others being relatively out of date. Like the Armada, the Argentine Air Force is equipped with ex-US Navy A-4 Skyhawks, probably all of which have been updated by the installation of the Ferranti D126R ISIS weapons-aiming sight.

Although developed in the late 1950s, the Skyhawk has become highly regarded by the forces of several nations. Together with the Navy A-4Qs, the Air Force A-4Ps gave Argentina a force of some 70 Skyhawks at the beginning of the conflict.

The Mirage IIIEA fighter-bombers operated by the I Escuadron de Caza of the VIII Brigada Aerea is also a relatively dated

design, having first flown in 1961. However, it too is in widespread use and is the front-line equipment of several air forces.

The Dagger aircraft also operated are virtually carbon copies of the Mirage III originally produced as the Nesher for the Israeli Air Force. It is probable that the Argentine aircraft are ex-IAF machines, refurbished before delivery.

These aircraft are capable of supersonic speeds at high altitudes but the need to avoid Sea Harrier patrols and SEA DART missiles carried by some RN vessels, has obliged a low level approach to their targets. The combined Mirage/Dagger force at the outset of the Falklands invasion numbered about 38.

As the British raids on the islands took place, and finally the landing was made at San Carlos, ships of the Royal Navy came within range of the Argentine Air Force Skyhawks and Mirages. Attacks were not long in coming and the low-level technique once again proved successful; a Type 21 frigate, HMS *Ardent*, in Falkland Sound succumbed to 500lb bombs dropped by Mirage and MB 339 aircraft. The latter type is an advanced trainer/ground attack aircraft operated by the Armada but hardly intended for use against warships.

Argentine losses during these attacks were high; forced to fly at low level the attacking aircraft had little time to acquire their targets visually and opposition in the form of gun-fire and both ship-borne and land-based missiles, was formidable.

Nevertheless, courageous flying and low-level attack tactics did bring results. Another Type 21 — HMS *Antelope* — was sunk North of San Carlos by a bomb accurately placed by a Skyhawk reported to be flying at 50ft above the water.

It is evident that a saturation attack technique has been practised by the Argentines. Aware that the British forces on the San Carlos beachhead would be equipped with both RAPIER and BLOWPIPE (the latter having been used successfully

by their own defending forces), and that some of the ships would be missile equipped, the only likelihood of success would come by the use of overwhelming numbers.

The technique was employed against a Type 22 frigate engaged in shelling installations near Port Stanley; Skyhawks succeeded in holing the vessel although the single bomb passed through the hull without exploding, causing only minor damage.

The cost of such tactics was underlined when two Skyhawks fell to SEA DART missiles launched from HMS *Coventry* stationed on radar picket duty at the Northern entrance to Falkland Sound. A further wave of Skyhawks succeeded in hitting the Type 42 with bombs however, and the ship was sunk.

The Pucara ground attack aircraft employed by 2 Escuadron de Exploracion y Ataque have used the same low level attack technique against ground targets. However, these turbo-prop powered aircraft are relatively slow and have had to use natural terrain as much as possible to avoid detection and attack by ground missile units.

Although the British Task Force air strength has been vastly outnumbered throughout the conflict, the Sea Harrier has proved capable of intercepting and destroying aircraft of superior performance. The few Harrier losses have been mostly due to enemy ground defences.

It must be remembered that flying from mainland bases, Argentine aircraft have been severely handicapped by their operational range. There is no doubt however, that skilled flying has won some successes although the toll in Argentine aircraft has been high; some 22 Skyhawks, 17 Mirage/Daggers, nine Pucaracs and nine other types have been claimed by the UK Ministry of Defence.

The successful attack by Super Etendards on the *Atlantic Conveyor* container ship has once again demonstrated that the EXOCET is a formidable weapon for which an adequate defence must be found.

was being used as a ferry and troopship. She was attacked, damaged and ran aground and abandoned overnight. Out in the Bay yet more British troops were landed from HMS *Fearless* and the merchant ship *Norland Sound*.

Ashore it was anticipated that work was in progress to set up an air strip for the RAF Harriers, not a moment too soon as it eventually turned out. The troops, however, were finding it difficult to dig their anti-shrapnel 'L' shaped slit trenches, for at depths below about two feet they immediately began to fill with water. In these conditions the helicopters began to prove invaluable for rapidly transporting men, supplies and heavy equipment.

However, even the sneak Argentine air attacks carried out at low level and using the islands for radar cover,

achieved their successes. On May 23 the frigate *Antelope* on guard duty in the Sound was severely damaged, with one man killed and seven wounded. It was some days before more exact information on this attack became available when it was learnt that the *Antelope* had been hit by several bombs which had failed to explode. In view of the danger a number of the ships company stood off in boats while a bomb disposal team dealt with the bombs. Apparently one of these, a 500lb bomb lodged in the engine room, had exploded, killing an RN officer and the bomb disposal officer as he was attempting to defuse it. A fierce fire broke out on board the *Antelope* which other members of the crew tried in vain to fight. They battled with the fires for several hours, but their efforts were



overwhelmed and the *Antelope* had finally to be abandoned. Yet again a warship with a considerable amount of aluminium in her superstructure had fallen victim to fierce fire.

Argentine air raids on the ships in the Bay continued, in spite of severe losses, and due credit must be given to those pilots for the courage, tenacity and skill with which they pressed home their attacks in the face of the extremely strong anti-aircraft defence provided by the warships — the greater majority of it being surface-air missiles.

During May 24 in further air raids, two RFA support ships (one of them a 'Fort' — class vessel) were narrowly missed. The raid comprised three waves of three aircraft attacking in opposite directions. The first wave from the west comprised three Mirages which flew in at 50 feet. These were followed by the second wave of three Skyhawks which raced up the anchorage from the South at low level to drop a bomb neatly between the two RFAs.

During the day at least seven Argentine aircraft were shot down. A British Sea Harrier pilot was also lost when his aircraft crashed on take-off.

A temporary respite followed, but May 25, the anniversary of Argentina's independence day, was tensely awaited, as many felt certain there would be some form of major attack at some point during the day. The forecast proved tragically true, and again Argentina managed to score a significant success against the Task Force. How significant this may have been, was certainly not known to Argentina at the time, for they believed that in a series of fierce air raids in which the Navy's Super Etendard

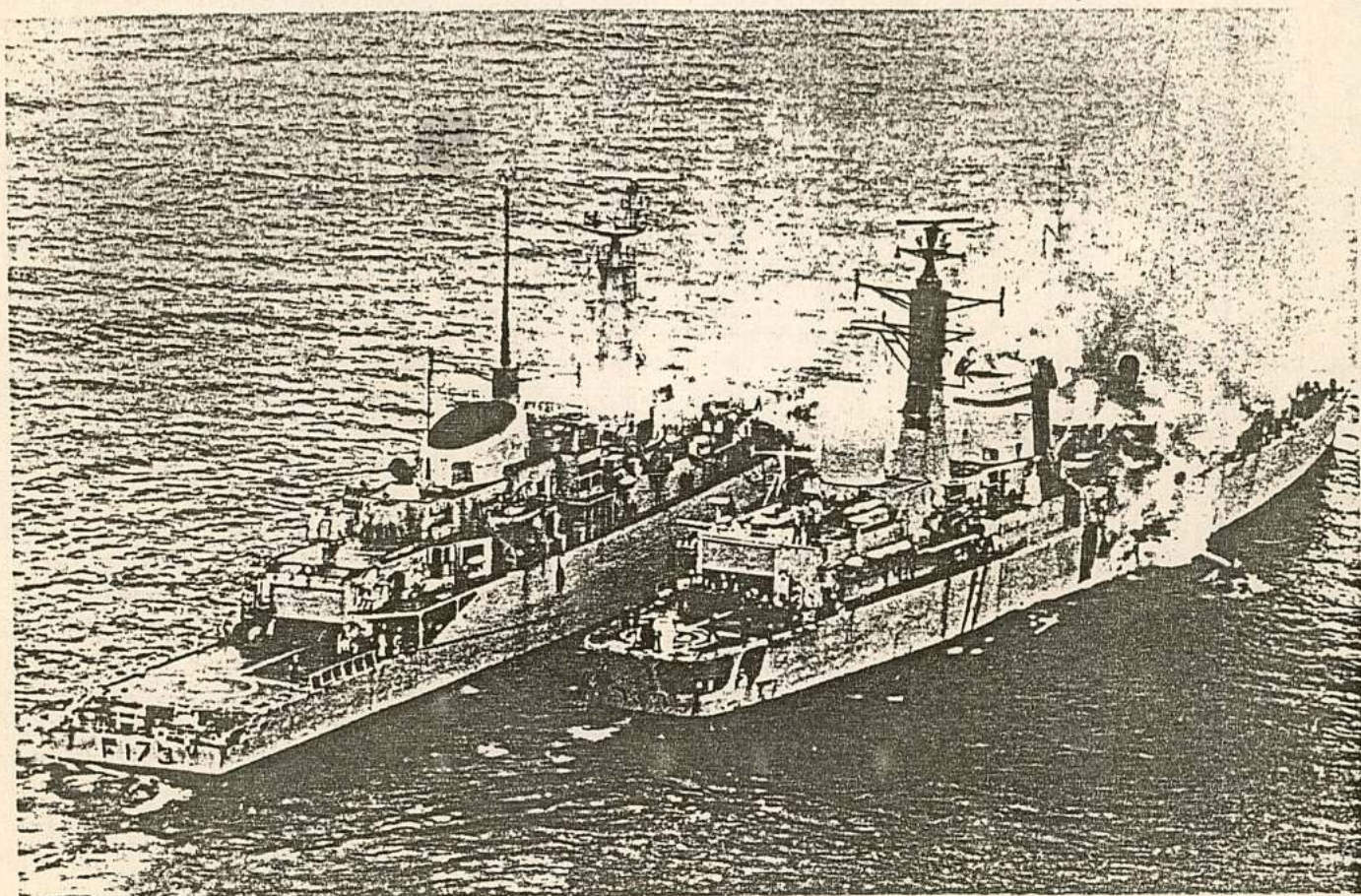
aircraft deploying EXOCET air surface missiles were again used, they had struck one of the Task Force Carriers.

Again it was a few days before further details of the action emerged which enabled a more accurate picture to be drawn of the action.

The raid had obviously been very carefully planned and was well executed. Two waves of bombers struck at three Task Force units carrying out radar picket and air defence duties to the North West of the Falkland Sound. Using the islands as cover to hide them from the ships' radar they swept in low over the islands and sea below radar cover and struck HMS *Coventry* which was seriously damaged in her operations room by a bomb. Earlier in the day *Coventry* had shot down with SEA DART missiles an Argentine reconnaissance aircraft, but not before it had been able to pinpoint the position of the Task Force units and send details back to base. Air attacks began in the afternoon and during the first raid the *Coventry* shot down two Skyhawk aircraft using her SEA DART missiles.

As one wave of aircraft hit the *Coventry* at 1830 GMT on May 25 another wave, including the Argentine Navy's Super Etendard armed with EXOCET air-surface missiles, carried out a stand-off attack on a large target which it is assumed the Argentines thought was the Task Force carrier *Hermes*. The target was, in fact, the large container ship *Atlantic Conveyor*, which had carried Harrier reinforcements to the Falklands. Fortunately these had all been flown off before the attack. The *Atlantic Conveyor* was struck by one of the EXOCET missiles fired by the Etendards which severely damaged the container ship,

*HMS Sheffield* was the first major British casualty of the Falklands operation, being struck on her starboard side amidships by an air-launched EXOCET, the frigate *HMS Arrow* lies alongside the *Sheffield* and directs fire hoses on the destroyer which had lost all main pressure in her own fire-fighting system.





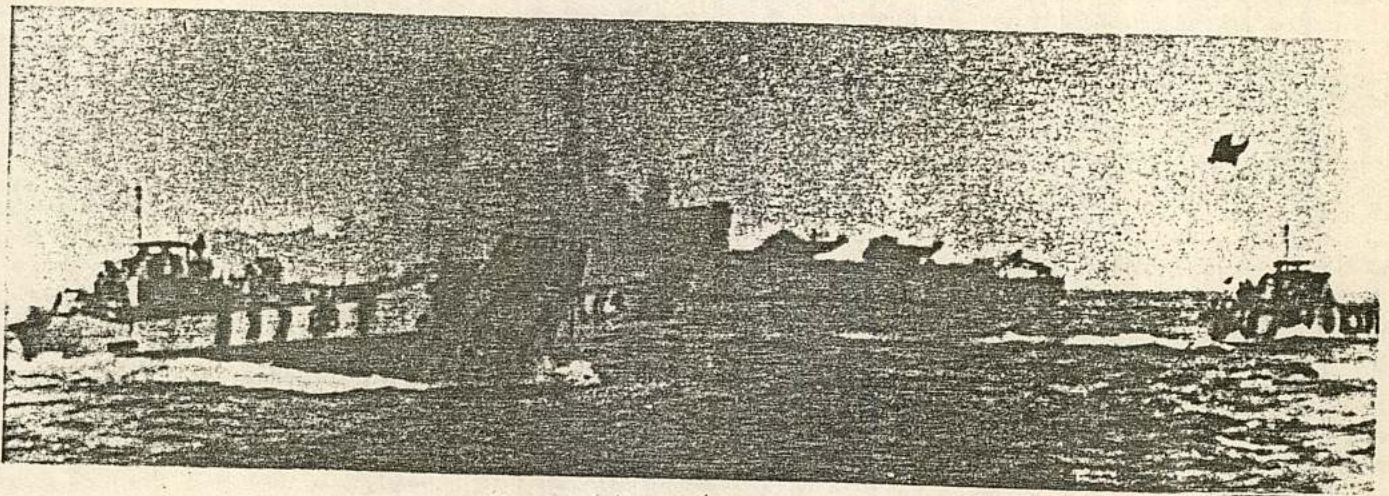
starting fierce fires. She was later abandoned. Three RN and one Merchant Navy crewman died in the attack and there were eight missing, including the Captain. Although the Harriers were safe the ship had not unloaded her cargo which included considerable quantities of spare parts and supplies including drums of fuel for the RAF Harriers and probably also the Wessex and Chinook helicopters she originally embarked (it is thought there were between 12-18 helicopters on board although some may have been already flown off) still stacked below decks. At the time of the attack it was thought that *Atlantic Conveyor*, which had been acting as a floating Harrier hangar for the Task Force carriers, housing the aircraft on her specially strengthened deck overnight ready for VTOL transfer to the carriers for daytime operations, was heading into San Carlos Bay to unload her stores. The bulk of the assault troops stores had already been unloaded, and five large stores ships had

already left the beachhead area earlier in the day. However, as the *Atlantic Conveyor* had remained afloat after the attack, there were hopes that it might prove possible to salvage the ship and some of her cargo.

Up to the time of these attacks three other British warships had been damaged — the destroyer *Antrim*, and the frigates *Broadsword* and *Argonaut*. The losses already suffered, however, were more than compensated for by extra units which joined the Task Force during the middle of May. One of these units was the destroyer *Bristol* which escorted the troopship *QE II* to the South Atlantic and possibly the frigate *Avenger*.

As we went to Press with this article it was learnt that 600 men of the 2nd Parachute Battalion had captured Darwin and Goose Green killing 250 Argentine troops and taking 1,600 prisoner. Further details of this action will be given in next month's issue.

Assault craft from HMS Fearless speed ashore with reinforcements for the British bridgehead on the Falklands.



## Requisitioned Merchant Ship Update

by A Ambrose

Since the publication of the last edition of *NAVY International*, events in and around the Falklands have proceeded apace. Several other merchant vessels have been requisitioned or chartered by the Ministry of Defence, details on the use of others have started coming to light, and several of the ships requisitioned or chartered in the initial activities, having completed their naval tasks, have now been returned to their normal commercial trading activities. P&O Cruises, apparently in no doubt as to the outcome of the action, have even — as *Canberra* sits at anchor under air attack at Port San Carlos — commenced advertising a new series of cruises in the 44,807-ton ship. That, therefore, is a measure of their confidence in the ship and the ability of the Royal Navy to protect it. Others, call it supreme optimism.

As to the Navy's new recruits, on Tuesday May 18, the 5,056 GRT *Tor Caledonia* was requisitioned. She is

another roll-on roll-off cargo vessel, not unsimilar to *Elk* (see May edition), and has embarked much heavy military equipment and earth moving plant. Setting sail from Southampton on the May 20, her destination was simply stated as 'South Atlantic'. Also on the 18th, a North Sea diving support ship was requisitioned, the 1,595GRT *British Enterprise Three* which raised much speculation as to exactly what 'Enterprise' she was about to undertake, when viewed in the light of the fact that she normally operates as a mother ship to two miniature submarines! However, much of the conjecture was later stifled, when the MoD went to pains to point out that they had not in fact requisitioned her submarines, only the mother ship herself. She sailed for Rosyth, where alterations were made to achieve compatibility for naval use, from whence she has now sailed, also believed to be to the South Atlantic.

On May 20 the 3,150GRT passenger cargo ship *St Helena* became the latest RN recruit. No stranger to the South Atlantic, the *St Helena* usually operates a regular two monthly service between Avonmouth, Ascension Island, St Helena and Cape Town, having taken over the route after the demise of the famous *Union Castle* passenger cargo fleet which used to serve the islands. She will be a handy ship to the MoD, able to carry over 3,000 tonnes of stores, and up to 100 or so passengers.

On the previous day to *St Helena's* requisitioning, the MoD indicated that ten ships were being freed to return to trade. However since that announcement, the ships named still appear to be under MoD orders. At present only three ships appear to have returned to normal trade, these are the Swedish chemical carrier *Cortina*, the British chemical carrier *Orionman*, and the Swedish tanker *Vinga Polaris*. The Swedish flag *Corona*, also stated to be



returning to normal trade, is however, at time of writing, still working a shuttle service between Fawley and the Isle of Grain oil terminals, to various RN bases including, Portsmouth, Portland and Devonport, presumably replenishing reserve fuel supplies used up when the various fleet units had to sail suddenly.

What has emerged recently, is that several of the 'called up' merchant vessels have not, as at first imagined, sailed with the fleet into the Falklands area, but have remained in UK waters, replenishing supplies so hastily used when the fleet first sailed. Others have been used to ferry supplies and fuel as far as Ascension Island, and others have been used to take supplies as far as South Georgia, where all present indications are, that a large logistic backup is being assembled.

Aside from the second line logistics however, a large proportion of the merchant vessels called up, actually went in with the task force in the 2nd wave landing on the first night. These included P&O's *Canberra*, and North Sea Ferries' *Norland*, both of which were still in San Carlos Sound at daylight the next day, and were not withdrawn until the Saturday night under cover of darkness. These ships, which moved in behind trawler/minesweepers on the Thursday night, were subjected to constant air attack, but luckily managed to escape with little or no damage, even though Argentine claims of destruction were numerous.

*Atlantic Conveyor*, the 15,500GRT part roll on part container ship fared less well though, and although she had disembarked her Harriers some days earlier, was still fairly well loaded with miscellaneous spares and parts, when she was hit by an AM39 EXOCET missile fired from an Argentine Super Etendard aircraft, which caught her in a surprise attack from the East on May 25, an hour after the bombing attack which saw the loss of HMS *Coventry*.

Although several reports have recently indicated, that had the ship been fitted with BAe Dynamics new containerized VM40 SEAWOLF she might have saved herself, these reports can only be considered as extremely irresponsible, as had the Government given this project the go-ahead when it was initially put forward, it is still unlikely that the ship would have had such a system yet. What has been proved, however, is that a large ship can still stay afloat after an attack, a factor which may give more credence to the USA's carrier protagonists. The questions which the conjecturists should be perhaps asking now, is not about SEAWOLF, but about what would have happened if HMS *Ark Royal* (R09) & *Gannet/Phantom* combination, had not yet been scrapped?

As we went to Press we learnt that the *Astronomer*, 27,867 tons, a British container ship has also been requisitioned. She is twice the size of the lost *Atlantic Conveyor*. Her presumed task is the carriage of further GR3 Harriers and

a large quantity of aircraft spares and general supplies to the South Atlantic.

On the other side of the coin, the Argentine Merchant fleet has not been faring very well at all! The chartered auxiliary *Isla De Los Estados*, which was rumoured to have run the Royal Navys' blockade on April 21, ended her life closely resembling the output of a CORVUS-Chaff system when located by an RN frigate in the Falkland Sound. This took place on May 11, as a result of a radar contact gained by the frigate at night. The ship was challenged and attempted to run away, so the frigate, HMS *Alacrity*, opened fire with her 4.5in, and there followed an explosion which was stated by MoD to have been 'massive'. A factor quite evident from the fact that the cloud base was melted by the force of it.

The trawler/AGI *Narwal* having already been dealt with, next on the list was the 8,000 ton *Rio Carcaran* a general cargo ship, which was located by two FRS-1 Harriers while on a routine combat air patrol. *Rio Carcarana* was found at anchor in Port King Bay off the Falklands Sound, and was attacked with bombs and cannon fire by the Harriers, whom left the vessel burning. A little later, two other Harriers flew past and reported that the crew had abandoned the vessel and were heading for shore in the boats. As these latter two Harriers passed the Fox Bay position at the southern end of the Sound, they saw another vessel secured alongside, and opened fire on it with cannons. Bombing however, was not attempted on this second run in, due to the proximity of the settlement and the possibility that civilians may have been nearby, but the cannon fire certainly caused some damage to the ship and started a number of small fires. The vessel involved was the (by now quite famous) *Bahia Buen Suceso* which appears to have a quite remarkable survivability factor not possessed by other ships in the Argentine forces! She managed to return fire on the Harriers and even hit one! Though no severe damage was sustained, and the aircraft returned to the carrier safely.

The next incident, which took place early on the morning of the May 17, involved the *Bahia Buen Suceso* yet again! This time she was heading for Port Stanley (presumably she found Fox Bay too uncomfortable and had slipped her berth that night). She was located and engaged by a Royal Navy frigate, which managed to increase her displacement tonnage by the measure of a few 4.5in shells. Again however, it appears that she managed to survive, and returning the British frigate's gunfire managed to slip into Port Stanley. Surely the *Bahia Buen Suceso* must have the dubious pleasure of being the most 'shot ship' at present.

On May 23, in roughly the same position, another merchant vessel was located by an RN frigate. This was a small coaster which had been commandeered by Argentine forces for military use, and in

the course of the action the vessel ran aground and was abandoned. In all, Argentine maritime movements around the Falklands have not exactly met with a great deal of success. It is therefore clearly apparent, that the naval blockade must be very close to 100 per cent effective.

With the British task force now consisting of over 100 vessels in the South Atlantic fleet alone, plus numerous others filling roles in northern waters, it is perhaps surprising that the MoD are apparently still scouring 'Janes Merchant Ships' for additional tonnage to lift a variety of cargoes. An extremely surprising addition at the end of May, was the New Zealand ro-ro passenger ferry *Rangatira*, which was apparently 'volunteered' to take a thousand more British troops, including a large number of Royal Engineers and their associated equipment, to repair and renovate the islands airstrips etc. This announcement followed closely on the heels of the release that HMS *Amazon* (working east of Suez), would be replaced by HMNZS *Canterbury*, so that the former could join the Falklands group.

An interesting factor concerning the *Rangatira*, is that she was, until recently, in use as floating hotel ship, and in this regard she could be extremely useful in the South Atlantic. Considering the normal accommodation of the islands is only for a population of 1,800, it would seem that accommodation for a possible future garrison of brigade strength or more, would be necessary. In that case, the retention of a few merchant vessels to provide accommodation, would be an extremely useful option, during the interim period whilst long term plans were established.

Other vessels to 'join-up' during May, were the Swedish flag *Stena Inspector*, an offshore support ship of 5,823GRT, which already has a heli-deck, a diving bell, and accommodation for 300. She is fitting out in Charleston Navy Yard for her new duties, which are expected to be of a salvage nature, and is expected to sail for the South Atlantic soon, to join her sister ship *Stena Seaspread* which is already with the force. Also joining the task force is the requisitioned general cargo ship *Laertes*. She too has a sister ship in the Falklands force, in the shape of the *Lycaon*. Both of these ships were built in Russia about six years ago, and are of 11,804GRT with a capacity for both general cargo and up to 434 TEU containers.

It appears, that with the on-going call ups, the MoD are intending to keep the British force on the Islands for some time, and as such, are already making contingency plans for some measure of future development such as runway extensions etc. If this is the case, then one can expect that there will be a few bulk carriers chartered in the near future, and that the charters/requisitions of general cargo vessels will continue, even after the military actions cease.



ESCUELA DE GUERRA NAVAL

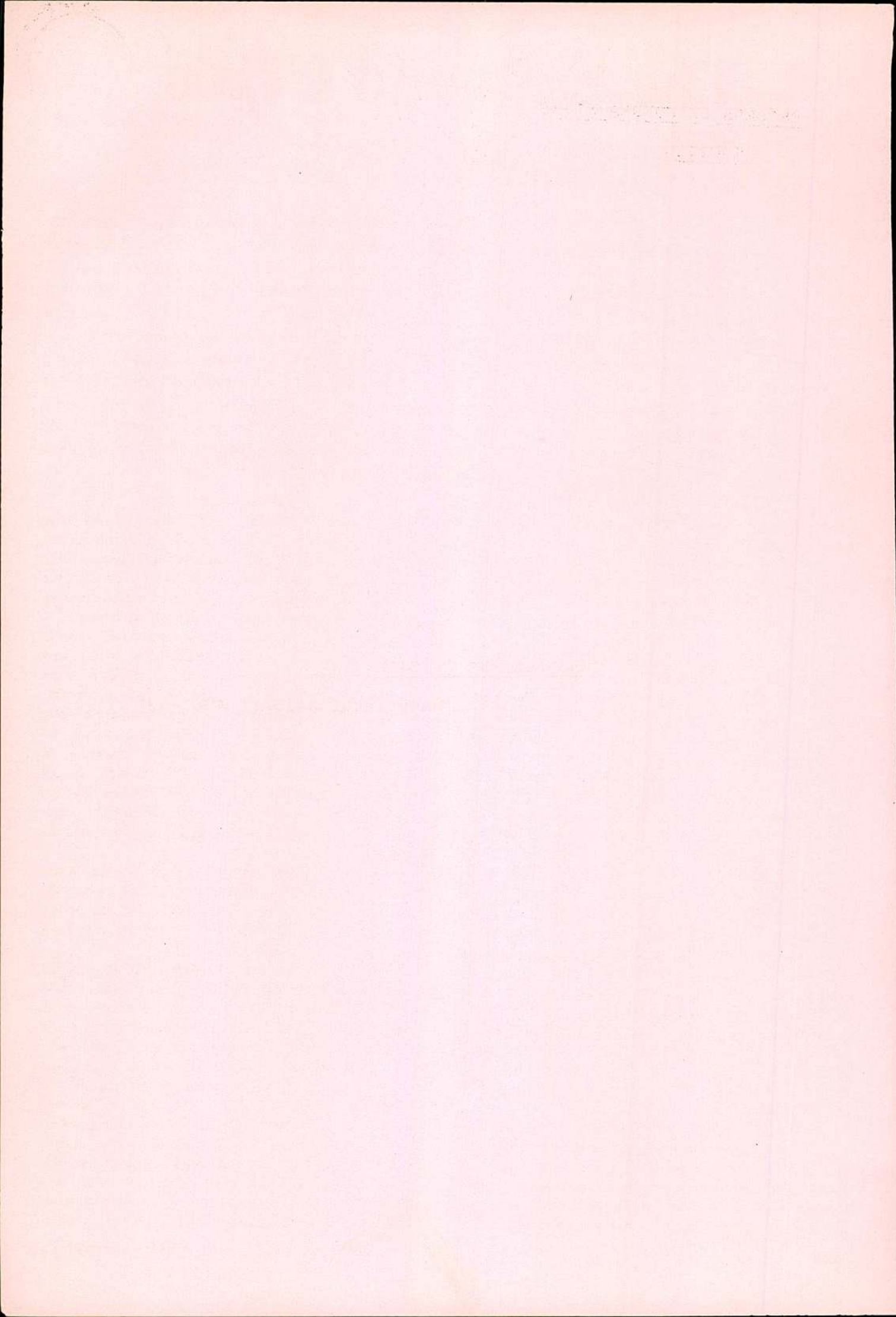
TACTICA



THE FALKLAND CRISIS

(Navy International AGO. 82)







# The Falkland Crisis



## Operations and Progress after May 25

Although it was not realized at the time, the action of May 25, detailed in last month's coverage of the Falkland Crisis, saw the climax of Argentina's air effort to frustrate British attempts at retaking the Falklands. The Argentines realised that air attacks on well dug in ground troops do not always prove successful, and there are plenty of examples from the Second World War which show that once an amphibious assault has developed a strong bridgehead ashore there is little that can be done to dislodge it. Thus Argentina concentrated her major effort against the amphibious forces and escorts in San Carlos Bay — and not without a measure of success. Losses in any amphibious operation are usually anticipated to be on the high side, and it can only be wondered at that such a large assault as was carried out at Port San Carlos initially succeeded without loss. All credit is due not only to the deceptions carried out, but also to the previous raid on Pebble Island, whose main target was an Argentine surveillance radar, which, if the Commando's had not destroyed it, would have given timely warning to the Argentines on the Falklands of the impending British assault.

Once the full realization of the magnitude of the assault dawned on the Argentines, every effort was made to frustrate the amphibious part of the operation leaving the troops ashore in an untenable position. Destroying the troops ashore would be extremely hazardous and difficult, if not impossible. The only way was to cut them off from their supplies, and this the Argentine Air Force, supported it is thought by a number of Argentine Navy aircraft, attempted to achieve.

Part of that phase of the operations was related in last month's edition, where the loss of the frigate *Antelope*, destroyer *Coventry*, and container ship *Atlantic Conveyor*, was reported.

Following these massive air raids, mounted in one instance by some 80 Argentine aircraft, of which only a small number finally reached the combat zone to suffer severe losses at the hands of British surface-air missiles (SEAWOLF, SEA DART, RAPIER and even BLOWPIPE) and Harrier (both RN and RAF) aircraft, the fighting at sea died away, and it was left to the troops ashore to pursue the action with the utmost vigour. In this the RN was fully involved providing protection for the merchant ships carrying thousands of tons of stores and ammunition *etc* and with Sea King helicopters from the Task Force heavily involved in ferrying the stores ashore, and also bringing up supplies and reinforcements to troops right up in the front line. From the land aspect of the campaign this could truly be said to have been a helicopter war. Without their invaluable support it is doubtful whether the whole campaign could have been concluded so swiftly and with such small loss of life as it was.

With the heavy fighting both Argentina and Britain were hard pressed to maintain the supplies, particularly of ammunition necessary for battle. Argentina especially appeared to have some problems in maintaining attacks through lack of weapons. In particular the air force, fortunately for the British Task Force, was relying on

bombs of Second World War manufacture. The long storage time of these weapons possibly accounts for the lucky escapes some British vessels had after being struck by these bombs. Also it appears that the bombs were of the armour piercing variety, and that the thin plating of the British vessels was insufficient to detonate the fuze.

Because of the nature of their arsenal the Argentines made strenuous efforts during the conflict to acquire new stocks of weapons. One such load, an airlift of some 60,000lb of Israeli manufactured high impact bombs, rockets and other armaments was impounded at Kennedy Airport, New York, aboard an Ecuadorian Boeing 707 cargo jet. Peru had offered military assistance to Argentina and in view of this France, so one report stated, blocked a move to load eight EXOCET missiles aboard a Peruvian Navy transport, the transport leaving Le Havre on May 20 after being informed that it could not load the missiles.

Britain, on the other hand, was rather more successful, her high expenditure of SIDEWINDER air-air missiles requiring extensive replenishment of war stocks, which was undertaken by America. The number purchased was said to be in the region of 100.

The quantities of various stores and ammunition expended by the British Task Force led to many British companies working round the clock to keep supplies topped up for the Task Force. Apart from companies such as Chemring and Plessey, manufacturing the chaff rockets which proved so vital to the missile actions in the South Atlantic, and British Aerospace manufacturing the SEAWOLF, SEADART, SEA SKUA missiles *etc* and Marconi the torpedoes, hundreds of small companies were also heavily involved working overtime and round the clock to manufacture essential items of equipment. One direct result of the loss of the *Sheffield*, which was attributable mainly to dense black toxic fumes and acrid smoke, was the need for some different type of breathing



apparatus. What was required was a lightweight, simple, piece of apparatus which a crewman could quickly and easily don and give him sufficient air to enable him to escape from the damaged compartment. Such an apparatus existed, the British Sabre Company's ELSA (Emergency Life Support Apparatus) which was already the subject of a contract to the MoD. With the loss of the *Sheffield* the contract was brought forward and the quantity required increased from 2,000 to 11,000 units, at a value in excess of £1 million. By working seven days a week and with a dozen extra staff Sabre was able to boost output of ELSA from 50, to 2,000 units a week, a remarkable achievement. This story was typical of many small companies throughout Britain involved in supplying the MoD with equipment for the Falklands.

As well as these efforts, the threat of the anti-ship missile led to a small number of General Dynamics Vulcan-PHALANX CIWS being purchased, two being fitted to the carrier *Illustrious* which was shortly to be handed over to the RN, and two for the destroyer *Newcastle* which was due to sail and join the Task Force.

Meanwhile, as the troops ashore further consolidated their extensive bridgehead in preparation for the next move, RAF Nimrods from Ascension Island maintained a continuous ASW patrol in support of the Task Force. Patrols of extreme duration were maintained using the

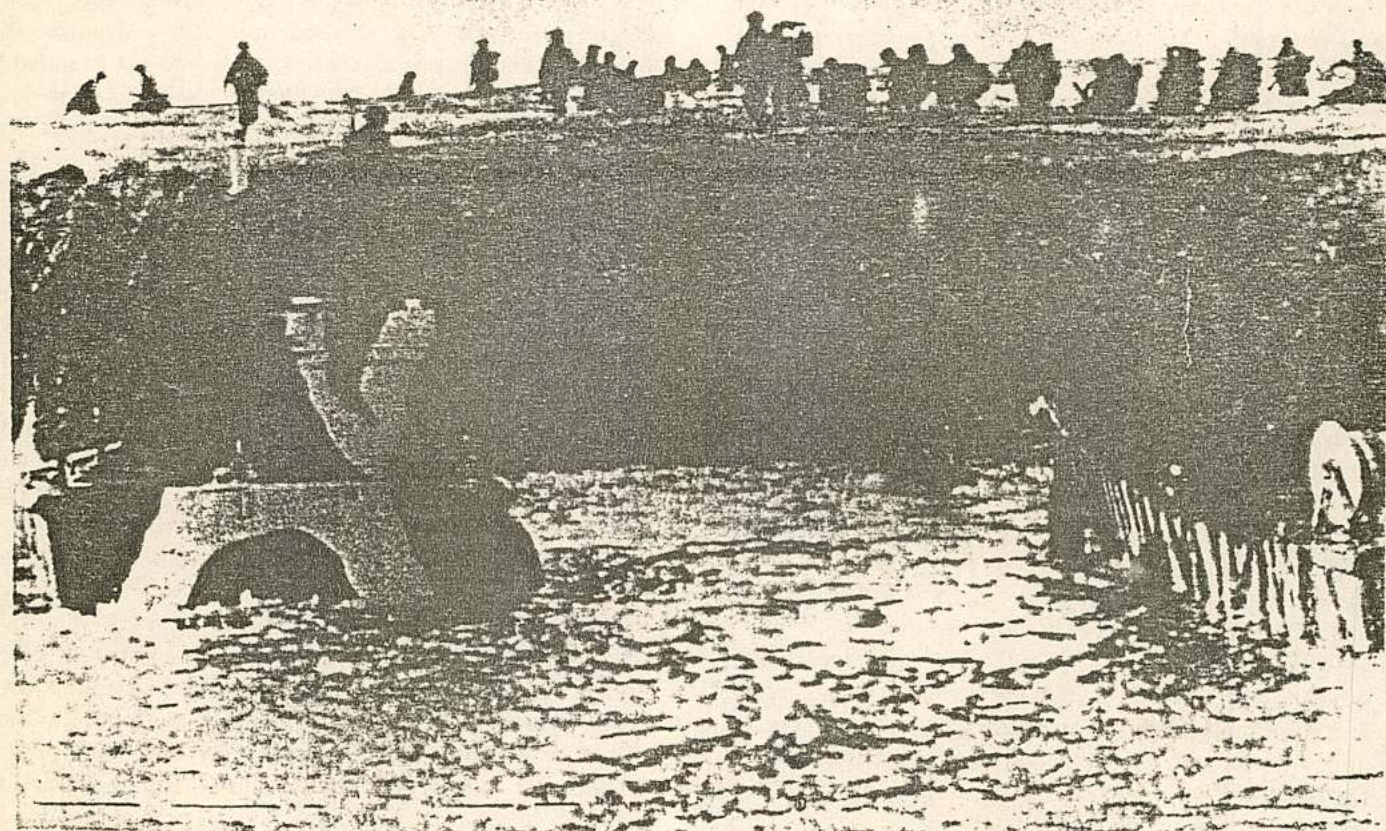
RAF Victor tankers to refuel in flight the Nimrods. The in flight refuelling aspect was one of the major features of the whole campaign and without which the British forces in the South Atlantic would have been forced to operate without one of the major segments of their air cover.

Argentine maritime reconnaissance capability, normally provided by a number of obsolete Neptune aircraft was enhanced by three new Brazilian Embraer EMB-III patrol aircraft which were acquired.

Soviet reconnaissance of the campaign was also considerably improved on May 15 when Cosmos 1365, a nuclear-powered ocean surveillance space vehicle, was launched on a South Atlantic orbit at a height of 160 miles. The high resolution radar of Cosmos 1365 operates in conjunction with Cosmos 1355, a general surveillance satellite launched on April 29, used to locate the general position of any ships on the ocean. Cosmos 1365 is able to accurately fix the co-ordinates of individual ships. However, it is not known whether any of the data from those satellites was made available to the Argentines to enable them to carry out their air attacks.

In spite of any problems they might have encountered in obtaining further supplies with which to replenish their stocks and reserves, the Argentines had certainly achieved a measure of success. Although the losses suffered were unlikely to have any obvious effect on the final outcome of

*Men of the Parachute Regiment storming ashore at San Carlos Bay on May 22, to help consolidate a firm bridgehead on East Falkland.*





# Falklands — The Continued Involvement of the Merchant Fleet

by A Ambrose

With the major land battles in the Falklands now over, only time will tell whether future action might or might not be forthcoming. Without doubt, a statement from the Buenos Aires authorities indicating that all hostilities are now over, can only be treated by the British with considerable scepticism, as effectively, there was never any statement informing the British that hostilities had ever in fact started! And since the invasion, almost all the long series of statements from Argentine sources — official or otherwise — having contained more than a small measure of fabrication, there seems little or no basis of trust upon which a peaceful and secure foundation for the future can be built. As a result, the only effective option for the present therefore, is for the British to implement the oft-quoted Fortress Falklands Policy, with all the necessary naval and logistics problems thereby involved.

Such a state of affairs, will call for a naval base of some measure, a lengthened airstrip at Port Stanley and a more heavily committed logistics set up than has previously been the case. Overnight, the intrinsic demands of logistical nature, will be doubled by the islands garrison, trebled by the area standing naval force, and, in the light of the requirement that some measure of building for the future must now take place, probably quadrupled by the additional commercial involvement necessary.

As a direct result, several of the merchant ships requisitioned for the original task force, may be required to be retained by the MoD for a protracted period. At least for the foreseeable future. In addition, other merchant vessels may be needed, simply to provide accommodation for the Islands drastically increased population.

Signs that the above policy is to be adopted, have been appearing quite strongly since the last press date of *NAVY International*. Instead of the requisitions ceasing as was thought would be the case when Stanley was liberated, there have in fact been further merchant ships taken up by MoD, and many indications from various sources, that several of the requisitioned vessels already in use, would not be returning to their normal commercial trade in the immediate or near future, if (as some indications seem to suggest) ever!

Probably the strongest indication of continued involvement, is apparent in the Harwich-Hoek Van Holland Haven roll on-roll off passenger/vehicle ferry the *St Edmund*, which has since its construction, been operated by the British Rail shipping group Sealink (UK) Ltd. Indications now

are, that they don't particularly want the ship back as they want to replace it with a larger, more cost effective vessel. An indication which has existed for some time. Furthermore, whilst the conflict continued no replacement was called in, but now (hopefully) the worst is over, they are talking of acquiring another ship to replace her.

If the *St Edmund* does continue to serve with the fleet, it would be quite useful to the navy in both the logistic role as a troop and equipment transport, or indeed, as a fully fledged recruit in the Royal Fleet Auxiliary as a landing logistics ship, to act as a temporary stand in for the RFA *Sir Gallahad* or *Sir Tristram*.

Another vessel unlikely to see commercial service again in the near future, is the roll on roll off, ex-New Zealand passenger/vehicle ferry *Rangatira*, which until its recent call up, was laid up at Falmouth, having been seeking work as an accommodation ship. Apparently she has now found a full-time career. Other merchant ships likely to be retained, would probably include one of the large freight roll on roll off ships such as *Elk* for straightforward logistics purposes; at least two tankers; a fire-fighting salvage tug, probably one of the 'Irishman'-class; and probably one or two general cargo vessels such as the *Geestport* or *Lyceon/Laertes* type for general logistic line services between the UK and Port Stanley.

In addition, due to the extra responsibilities and commitments of the already overstretched resources of the Royal Navy, coupled to the decreased size and capabilities of the fleet's physical existence, there may be some call to retain a vessel such as *Atlantic Causeway*, adapted to the US/UK ARAPAHO concept, in order to provide the necessary deployment requirements of the northern fleet, as it cannot be over emphasized that the despatch of Britain's major ASW Greenland-UK 'gap chokers' to the South Atlantic, left NATO ASW forces spread dangerously thin on the ground. The repetition of such action would considerably weaken the creditability of NATO, leaving no doubt in Admiral Gorshkov's mind, as to what he must arrange in the future, in order to deploy his northern fleet, in the manner to which he would like to become accustomed. Given the present 'state of the art' in British Defence Ministers' that option will be his anyway within the foreseeable future.

Now that the major South Atlantic problems are over, more information is also coming to light on the various ships involvements, which included visits to such diverse places as Portugal and various mainland African ports. *Queen*

*Elizabeth 2* for example, hotly contended by the Argentine airforce to become a major landmark in San Carlos Water, never actually went to the Falklands at all. Instead, as has been previously reported, she sailed at high speed, unescorted, save for ASW helicopters, to South Georgia, where she disembarked her troops of 5 Brigade onto the *Canberra* and *Norland*, which having already disembarked a Royal Marines Commando and the 3rd, and 2nd Battalions of the Parachute Regiment respectively at the San Carlos beachhead, returned once again with the Gurkhas and Irish Guards, with the Welsh Guards following in logistic landing ships. Later, both North Sea Ferries' *Norland* and P&O's *Canberra* being used to ferry the Argentine prisoners (as Admiral Woodward had previously stated) back to Argentina 'courtesy of the Royal Navy'.

Certainly the use of such vessels was an extremely valuable asset to the force commander, and it is pleasing to note, that the fears of operational incompatibility between merchant and naval units were not nearly so great as were originally anticipated.

Recent charters and requisitions having taken place since the last press date, have included the large container ship *Astronomer*, which, of approximately twice the size of *Atlantic Conveyor*, was presumably requisitioned to fill the large void left as a result of the latter vessels loss. Indeed, it is felt that the EXOCET attack on *Atlantic Conveyor* was in fact a far more serious loss than was originally suggested, and may well have been a large contributing factor to the decision taken to transport troops by sea from Goose Green/Darwin to Fitzroy, rather than in Chinook helicopters, such as those lost in the *Conveyor's* sinking.

Also requisitioned at around the same time, was the Blue Star general cargo ship *Avelona Star* of 9,784 gross tons, and the motor tanker *Natalie*. The Falkland Island Company's *Monsunen* was also requisitioned (by both sides in the conflict), the former operators charter being prematurely cut short when a Royal Navy frigate opened fire on her, causing the Argentine crew to terminate their voyage quite suddenly, by running the ship aground. The Royal Marines then repaired and refloated the vessel to assist in the Darwin-Fitzroy movements some days later.

Later still, the call ups continued apace, and the next ship to join the long list, was P&O's *Strathewe*, a general cargo/heavy lift ship of 12,600 gross tons, of the Polish built B-466 type, of which P&O have six available, and Bank Lines' *Cederbank* another general cargo ship of 11,500 gross tons. Taking on ammunition from a naval



supply ship before leaving port on June 19, *Cederbank*, and *Rangatira*, transported two Royal Engineers field squadrons and a unit from the Royal Army Nursing Corps, as well as considerable civil engineering equipment including bulldozers and rock drilling plant.

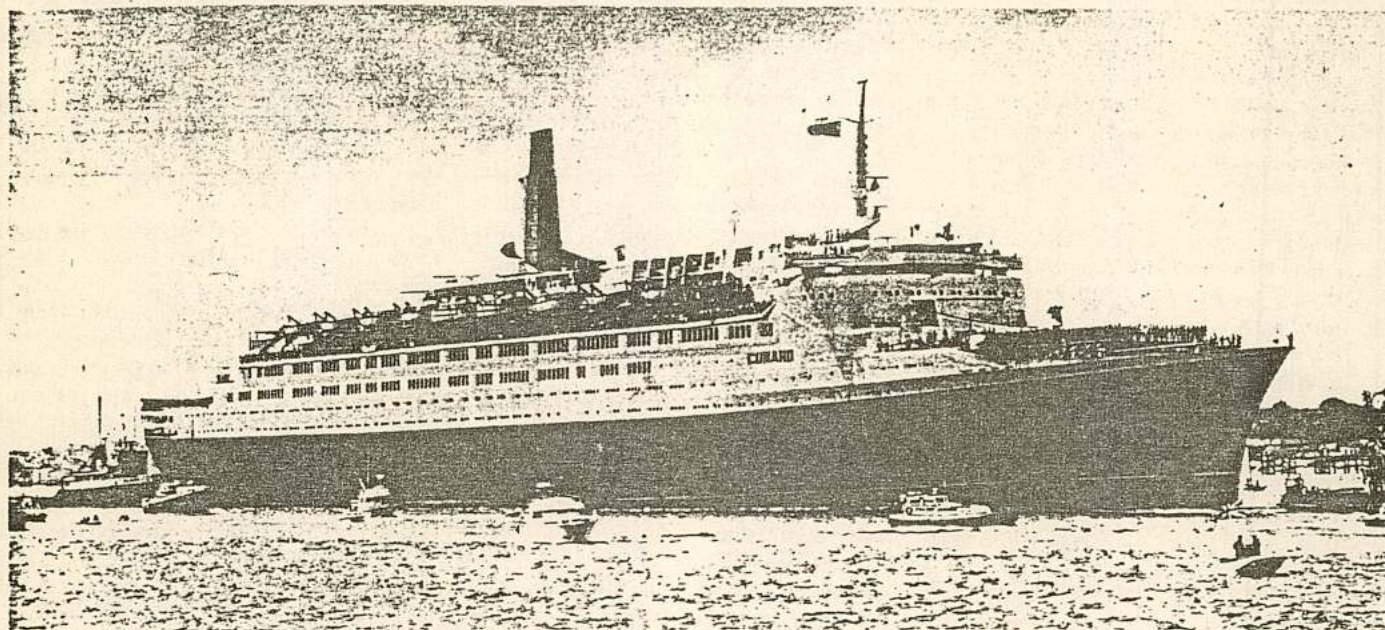
Another merchant vessel, the *AES*, a 499-ton general cargo ship operated by her Danish owners for the Falkland Islands Company, also sailed for Port Stanley to resume her normal liner services. She arrived on July 1, after having spent several weeks at Las Palmas awaiting orders. She was *en route* for the Islands when the invasion took place, and was forced to return to Ascension, and then Las Palmas, until the crisis was settled. Normally she operates a quarterly service from London to Port Stanley, but in the

light of recent developments she may now be replaced by a larger vessel, or alternatively, operate a more frequent service along with another ship.

One of the Argentine vessels, which became involved in the repatriation of the prisoners, is worthy of note. This is the *Almirante Irizar*, and is an interesting ship with which to draw comparisons. Built recently by Wärtsilä of Helsinki, she is an icebreaker very much in the modern Soviet style. Essentially, she was built to special order for Argentina, to undertake exactly the same duties as the British Antarctic Patrol Ship *HMS Endurance*. She was a costly and well equipped vessel, and her existence allows Argentina far more influence in the potentially lucrative Southern Ocean and Antarctic regions, than would be expected from a country

with such poor trading balances. The existence of this vessel reflects very poorly indeed, on a comparatively well-off British Government, whom in order to save a relatively insignificant £2 million, had decided to dispose of the only British patrol vessel capable of effective operations in these waters. Coming at the time it did, the announcement that *HMS Endurance* was to be deleted from the naval list in order to save the aforementioned sum, there can have been no clearer indication to Argentina, that the British Government did not see its interests in those waters to be worth two million pounds. Antarctica, the largest known consolidated fuel and food reserves in the world! Reserves located and surveyed, by whom? By *HMS Endurance* amongst others.

*The liner Queen Elizabeth II arriving at Southampton on June 11 with 629 survivors from HMSs Coventry, Ardent and Antelope. Survivors are standing on the helicopter landing pad built out over the bows.*



the campaign, and when the British Task Force was originally organized it was realized and accepted that losses would undoubtedly be suffered, nevertheless it was felt prudent that there should be reserves available, and once losses began to be suffered those reserves were effectively mobilized. Unfortunately cuts in RN strength in recent years had so decimated the Navy that short of completely withdrawing all operational units from vital areas, there were virtually no reserves available. Thus it was that four frigates decommissioned and awaiting sale at Chatham (three of them, *Gurkha*, *Tartar* and *Zulu* were to have been sold to Venezuela, while the *Berwick* would probably have been scrapped) were brought forward to replace units in home waters which were to be sent to the South Atlantic.

In the Falklands, meanwhile, the troops ashore had consolidated the bridgehead and two spearheads had struck out. On May 26-27 in one amazing feat a party of Commandos had force-marched (referred to in the service as yomping) with 120lb back packs and weapons across 40

miles of terrible terrain in the north of the island of East Falkland, to establish a second major base at Teal Inlet. This was the longest such march in the history of the Commandos. To the south 700 men of the 2nd Battalion the Parachute Regiment had followed a track 25 miles to the south and captured the air strip at Goose Green and the settlement at Darwin.

The capture of these two posts and the move in the north completely secured the flanks of the British forces and ensured that the bridgehead at San Carlos could not, under any circumstances, then be eliminated.

Unfortunately the capture of Goose Green and Darwin was not achieved without loss, saddest of all being the death of the CO of the 2nd Battalion, Col 'H' Jones, the only senior British officer to be lost in the campaign who was killed leading a platoon against an Argentine post. For the loss of just 17 dead and 31 wounded, the men of the 2nd Parachute Battalion captured the Argentine positions in a series of small but fierce clashes which began about 0600 on May 28, some four hours before dawn.



During the attack on Goose Green the Paras were attacked from the air by three waves of two Pucara ground attack aircraft. Four of these were downed by the Paras BLOWPIPE missiles and small arms, while one Pucara shot down a British Scout helicopter. As the weather cleared the naval bombardment was supported by Harriers carrying out ground attack missions. The Argentines were well dug in around Goose Green and not until dusk on May 28, after a 14-hour battle, did the 1,400 strong Argentine garrison in the area finally surrender. During the action an estimated 250 Argentines were killed.

The capture of Goose Green and Darwin gave the British a secure forward base from which to make their next move along the coastal route towards Port Stanley.

Naval and air bombardment of Argentine military installations around Port Stanley continued and intensified. On May 30 two Argentine Navy Super Etendard aircraft armed with EXOCET missiles attacked units of the Task Force, firing three EXOCET, one of which was probably shot down by a frigate escorting the carriers, together with one of the Super Etendards. This attack was followed by a bombing attack by three Skyhawks which achieved near misses. One of the Skyhawks crashed into the sea.

Following the capture of Teal Inlet and Goose Green 3,000 men of the 5th Infantry Brigade, transported south in the liner *Queen Elizabeth II*, and transferred to the *Canberra* and *Norland* at South Georgia transhipped to Teal Inlet and San Carlos Bay, while Marine Commandos moved south from Teal to capture high ground around the 1,500ft high Mount Kent on June 1, some 12 miles from the capital Port Stanley.

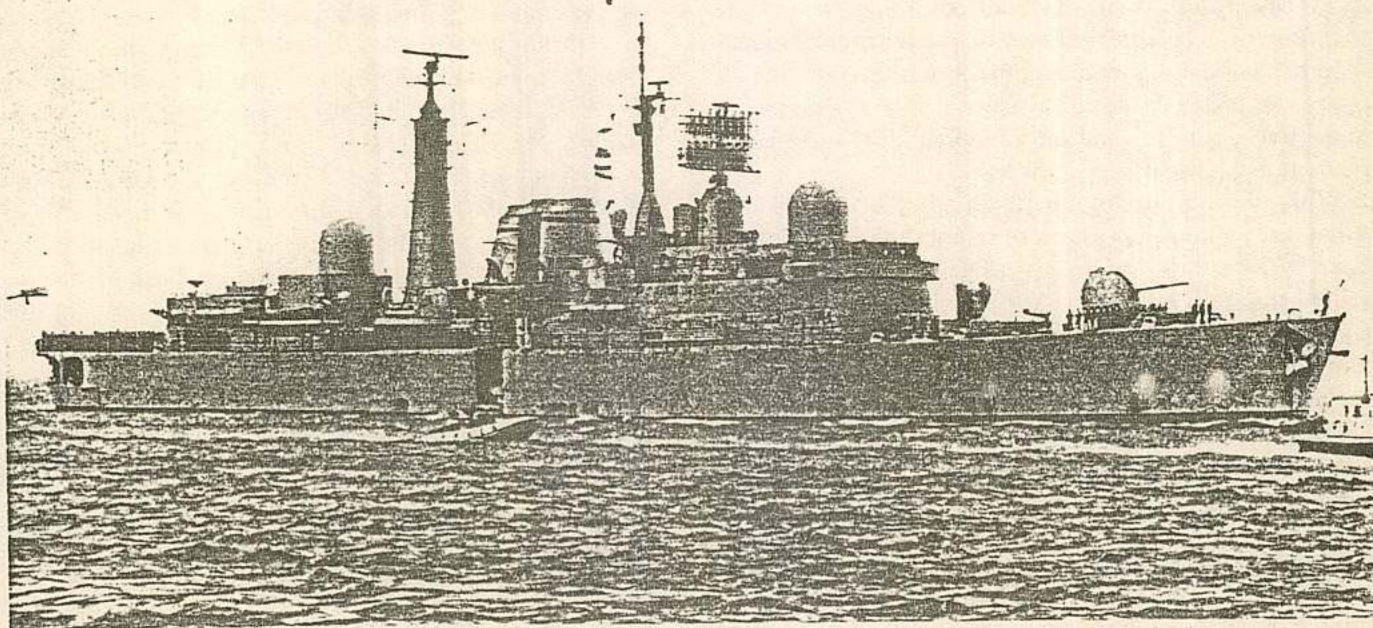
During June 1 an Argentine Hercules on a supply mission to the Falklands was detected some 50 miles north of Pebble Island and shot down by one of the *Invincible's* Sea Harriers.

*The first British warship to arrive home from the Falklands was HMS Glasgow which entered Portsmouth on June 19. The engine room suffered damage when a bomb hit the vessel and passed out just above the waterline, without exploding. The hole is visible just above the waterline just aft of the black stripe painted on the hull.*

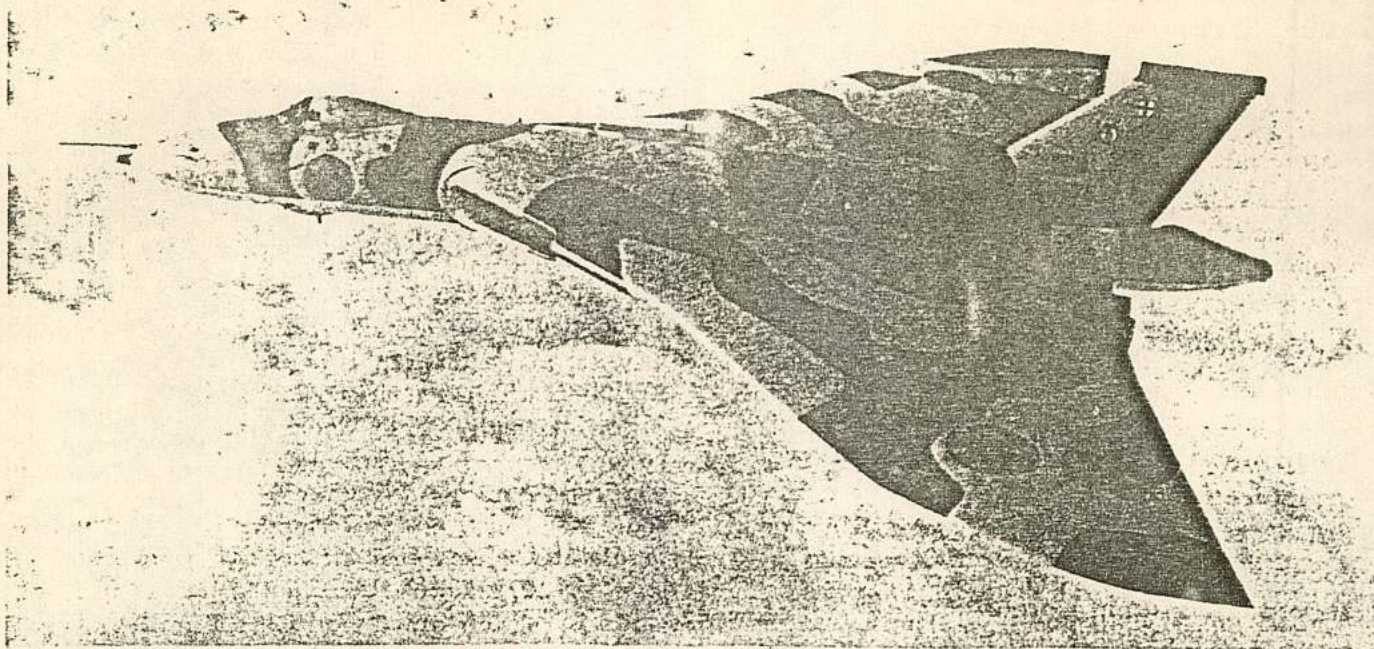
As the British forces closed in on Port Stanley, Harriers carried out a leaflet raid on the city on June 3, in which a message to the Argentine forces urged them to lay down their arms and surrender, together with a safe conduct pass. Also on June 3 a Vulcan bomber from Ascension Island engaged on a mission to knock out a radar site on Sapper Hill was forced to land in Brazil after it had been unable to carry out an in-flight refuelling when its probe was broken. After being held for some days the Vulcan was eventually released on June 10 and allowed to return to Ascension after its payload, which included a SIDEWINDER missile mounted under one wing, had been removed.

Following up their previous successes, and in an audacious leap-frogging movement designed to speed up the move against Argentine forces in Port Stanley, the British set up a new bridgehead at Bluff Cove, some 15 miles south of Port Stanley. Troops of the 5th Infantry Brigade were ferried round by sea, to Bluff Cove and Fitzroy Settlement. Unfortunately one of the troop movements, due to an extremely severe storm, failed to keep to its schedules, and two landing ships were caught in the Port Pleasant anchorage at Fitzroy at daylight on June 8. Because of the delay caused by the storm, the ships had not completed unloading; the main priority being to land the RAPIER missile batteries to protect the beachhead against air attack. Consequently, when the storm blew the cloud and mist away later in the day the Argentines were able to mount an air attack at about 1400 against the landing which had been detected by a long range (250+ miles) mobile Westinghouse AN/TPS-43 3-D unjammable radar which the Argentines had sited on Sapper Hill.

The Argentine Skyhawk and Mirage aircraft hit both landing ships which caught fire. The *Sir Galahad* was carrying men of the Welsh Guards who were awaiting landing craft to take them to the beach, and they were







*A Vulcan bomber of 101 Sqn, showing the in-flight refuelling probe. A similar Vulcan suffered a ruptured probe while refuelling and was forced to abort her mission to bomb a radar site on Sapper Hill, making an emergency landing in Brazil where she was detained.*

caught in the accommodation area aft which was struck by bombs. Severe fires were started and the troops were forced to abandon ship and save themselves in the liferafts. Amid the roar of exploding ammunition and spreading fire, helicopter pilots carried out extreme acts of heroism which resulted in the saving of many of the troops lives. The second landing ship, *Sir Tristram*, also caught fire, although she was less severely damaged. Altogether 59 troops (43 of them Welsh Guards) were killed and 74 wounded (46 Welsh Guards) in this attack which happened so suddenly and without warning that there was no time to don protective clothing.

The soldiers ashore had not had sufficient time to set up the RAPIER batteries when the raid occurred. Yet again losses had had to be suffered which might not have occurred had the Fleet been provided with sufficient carriers and aircraft with which to provide an effective AEW cover and also adequate air cover right across the islands to protect landing places at widely spaced points.

In the Falkland Sound on June 8, other Argentine air attacks seriously damaged the frigate *Plymouth* on picket duty (five wounded) and hit a landing craft from HMS *Fearless* in Choiseul Sound (six killed).

With all the troops of the 5th Infantry Brigade ashore there was no longer any need to retain the services of the liner *QEII* and this prime target for the Argentine forces sailed for the UK with 629 survivors from HMSs *Coventry*, *Ardent* and *Antelope*. She arrived in Southampton to a rapturous welcome on June 12, having accomplished the 8,000 mile journey in just 13 days, including refuelling from an RFA, the first time the liner had carried out this evolution.

Gradually the British grip on Port Stanley tightened and in a brilliant night attack carried out by men of 42 and 45 RM Commando and 3rd Battalion Parachute Regiment during the night of June 11, advances of up to five miles had been achieved with only light British casualties, in

spite of the fact that once they had overcome their surprise, the Argentines fought back with determination. Heaviest fighting occurred on Two Sisters ridge where one of the mobile radar sets had originally been positioned.

While the troops were engaged in the land battle ships of the British TF continued to bombard Argentine military installations around Port Stanley and on June 11 the destroyer *Glamorgan* was struck by an EXOCET missile from a shore battery which, it appears, fortunately failed to explode. Nine of the crew were killed and 17 wounded.

By the end of June 12 British troops had succeeded in capturing Two Sisters, Mount Longdon and Mount Harriet. Pressure was maintained throughout the weekend of June 12-13. During the second part of the operation carried out on June 13, men of the 2nd Battalion the Parachute Regiment, 2nd Battalion Scots Guards and 1/7 Gurkhas secured Wireless Ridge, Tumbledown Mountain and Mount William. From the positions they then held, which included all the high ground around Port Stanley, the British troops could closely observe every movement made by the Argentine garrison in Port Stanley. As they watched they could see thousands of Argentine troops streaming down the tracks into the city.

Then just before 0500 local time on June 14, having indicated their willingness to talk to the British, the Argentines in Port Stanley hoisted a white flag.

Just 74 days after Argentina had invaded the Falklands, their troops on the islands, who considerably outnumbered the British forces, were finally forced to surrender. □

*During the coming months NAVY international will be examining various aspects of the Falklands campaign in much greater detail, describing the various actions, and discussing the effects and lessons which must be learned from this, the first major naval war in the Twentieth Century. See also Naval Round Up — New Zealand — this issue.*



# THE FALKLANDS:

## Causes and Consequences



by James Cable

If sovereignty were the reward of literary output, Argentina's claims to the Falklands would scarcely be in doubt. By 1974 thirty-five books on the subject had been published in Spanish. British writers on the islands were more interested in bird-life.

So, it seems, were their readers. This was unfortunate, for much Argentine writing deserved attention in London.

Here is a translated extract from the three volume *Historia Completa de las Malvinas*, published in Buenos Aires in 1966 by J L Muñoz Azpiri:

'England committed an act of force by occupying the Falklands, outraging Argentina and, ultimately, the Americas. Argentina has protested and is protesting peacefully at this injury to her national integrity, on the basis of her rights, which are recognized by all the impartial nations of the world, and is trying to seek justice. The force of reason is not sufficient. The Argentine people must realise that one day they will have to employ the argument of force — Argentina ought already to be regarded as a maritime power, for her air force, of which the personnel is considered the finest in the world by virtue of the characteristic individualism they inherit as gauchos and from the soil, is comparable with her naval assault forces —'

Propaganda? Of course. So was *Mein Kampf*, which also deserved more British readers in its day.

Although Argentine authors give 1748 as the date of the first British attempt to usurp 'future Argentine rights' over the islands, the dispute did not really begin until 1833, when Britain annexed the Falklands. It became serious only after the Second World War, when Argentina was encouraged to press her claims by the progressive liquidation of the British Empire, by the growing anti-colonialism of the United Nations and by the steady shrinking of the Royal Navy. A special division of the Foreign Ministry in Buenos Aires was set up for this purpose in 1948, and in 1950 both the Senate and the Chamber of Deputies declared the Falklands to be Argentine territory.

The next thirty years were occupied by a curious game of blind man's bluff. Neither side listened to the other's words: Argentina insisting on recovering 'her' territory;

Britain on respecting the wishes of the islanders. But facts obviously made more impression in Buenos Aires than they did in London. In 1953 and 1966, for instance, Argentine attempts at armed incursion had brought a British warship promptly to the scene. The latter year, however, was also the year of a Defence Review in which the British Ministry of Defence renounced both carriers and 'the landing, or withdrawal, of troops against sophisticated opposition outside the range of land-based air cover'. By 1970 they had decided it would be sufficient if an ice patrol ship visited the Falklands in the Antarctic summer. These arrangements were not durably modified in 1974 when, after eight years of fruitless negotiations with Britain, the Argentine press and the opposition politicians demanded the invasion of the Falklands. Nor were they in 1976, when Argentina illegally occupied South Thule and an Argentine destroyer fired on a British ship. Instead Lord Shackleton was sent to the Falkland islanders, to which Argentina responded by demanding the withdrawal of the British Ambassador from Buenos Aires.

Perhaps it was only a coincidence that, in 1977, the Argentine Navy commissioned a Spanish translation of a book called *Gunboat Diplomacy*. But, when negotiations resumed that year, when the Argentine naval threat to Chile followed in 1978, when the British and Argentine Ambassadors returned to their posts in 1979, when another Minister of State, Mr Ridley, visited the Falklands in 1980 for another little talk with the islanders, some conclusions must have been drawn. These may even have been reinforced when the 1981 Defence White Paper referred to the Falklands only as islands where 'building projects' were being assisted.

It is conceivable that, in Buenos Aires, there may have been discerned what it is now fashionable, in other contexts, to call 'a window of opportunity'. Increasing Argentine pressure had resulted in greater British readiness to negotiate and a reduced British naval presence. Even that token ship *Endurance* was due to be withdrawn. On the other hand, Mr Ridley, in 1980, had still been talking of the option, quite unacceptable in Buenos Aires, of 'freezing' the issue of sovereignty, an option that seemed to commend itself to the British Parliament. And, in June 1981, the British Ministry of Defence had talked of eventually 'sending a substantial naval task group on long detachment for visits and exercises in the South Atlantic.'

The temptation must have been great in Buenos Aires: to push the dithering British into the final concession with one bold stroke that could not be resisted — as long as that



task group remained a paper project.

Was *'The Way Forward'* (Cmnd 8288) the precipitating cause of the Falklands War?

If so, it is ironical. General Galtieri had much to gain by waiting. Not only would another British general election probably have produced a more amenable Prime Minister, but Mr Nott's reforms needed time to work. If *Invincible* had been on her way to Australia, *Fearless* and *Intrepid* — and others as well — bound for the breakers, if the dockyard workers with redundancy notices in their pockets had already secured other employment, would the British response to Argentine invasion have been the same?

That is a speculative question, as are all attempts to guess at the reasons for the timing of the Argentine invasion. The fundamental causes of that act, however, are not in doubt. Three decades had demonstrated the seriousness of the Argentine purpose and their readiness to contemplate the use of force. The same period had seen Britain for ever teetering towards concession, yet always withdrawing from the brink: almost willing to yield, obviously reluctant to defend and manifestly relying on the diplomacy of delay.

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### Three decades had demonstrated the seriousness of the Argentine purpose and their readiness to contemplate the use of force.

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It was a case tailor-made for the application of limited naval force to resolve the dispute by removing its cause. Five islands, or parts of them, had changed hands that way in the Seventies: Greater and Lesser Tumb in the Persian Gulf, the Paracels and the Spratleys in the South China Sea, East Timor and Cyprus. In the first and last of these cases Britain had some cause to intervene, but had refrained. All five operations had been lastingly successful. There must have been every reason, in Buenos Aires, to hope for equal success in the Falklands — and at much less cost. General Galtieri was probably sincere when he described 'an English reaction' as 'scarcely possible and totally improbable'.

It is doubtful whether anyone in Argentina wanted or expected war. Earlier probes or threats had not been pressed when the arrival of British warships provided evidence of British resolution. A garrison on the islands or a naval presence in the South Atlantic would probably have been a sufficient deterrent. Neither need have been strong enough to ensure victory against all-out attack. A force capable of making serious fighting inevitable would have posed a convincing threat of war and protected the Falklands against that alternative to war: gunboat diplomacy.

Because Britain attempted neither defence nor deterrence, she virtually invited the Argentine invasion of April 2, 1982 and a painful choice between acquiescence and counter-attack. The first would have destroyed Britain's credibility either as ally or enemy. The second, as

the British people and their armed forces have sadly had to learn afresh, is far more costly, damaging and politically unpopular (particularly abroad) than either defence or deterrence.

This is not the place or the time to describe the triumphs and tragedies of the Navy's achievement in doing precisely what they had been told, sixteen years earlier, they were no longer required or equipped to do: *'the landing — of troops against sophisticated opposition outside the range of land-based air cover.'* It is enough to note that all three Services, together with the Merchant Navy, have once again met a challenge with which they need not, and should not, have been confronted.

It is also too soon to start drawing all the tactical and technical conclusions which everyone — not only in Britain — will want to draw from the first major naval conflict the world has known for 37 years: the longest period in modern history without a significant war at sea. It will be as essential a subject of study as, for soldiers and airmen, the Arab-Israeli War of 1973. But the necessary evidence will not be available until the fighting is over.

What ought to begin now is deployment of the case for fresh political and strategic thinking. This is urgent, because resistance to intellectual renewal is already entrenched and will need time, as well as effort, to dislodge. The errors of existing attitudes emerge clearly enough from the earlier account of the events leading up to the invasion of April 1982. Successive British governments did not take the Argentine claim to the Falklands seriously enough either to cede the islands or to defend them. When the inevitable happened and the Falklands had to be recaptured, the task was necessarily entrusted to a navy in the early stages of dismantlement. HMS *Invincible* sailed for the South Atlantic less than eleven months after the Secretary of State for Defence had said of her and her sister-ships: *'I do not believe that we would order them if we were making the decision today.'*

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### British Foreign and Defence policy had been distorted by undue pre-occupation with the single threat and the single scenario.

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These were not simple errors of judgment, nor were they attributable to any want of information and advice: they were errors of principle. British foreign and defence policy had been distorted by undue preoccupation with the single threat and the single scenario. The Soviet Union was the only enemy and the function of the Navy increasingly restricted to the defence of seaborne reinforcements for the Central Front against submarine attack. Yet there was no willingness to accept the logical consequences: the liquidation of those overseas commitments which the Royal Navy was no longer equipped to defend.

The trouble is, of course, that British defence policy is not animated by any clear conception of national purpose and strategy. Mr Heath put his finger on one very sore point when he told the House of Commons on July 8, 1981:



'We tend to give less attention to the basic strategy which our forces should be adopting than to the particular problems which arise out of the financial circumstances.'

It was arguably 'financial circumstances' that prompted the progressive withdrawal of British forces from the wider world to Europe; the contraction in the size of the forces and in the range of their capabilities; the increasing concentration, even within NATO, on tasks associated with the Central Front.

There were naturally other factors as well. One of them was the pernicious doctrine of 'equal misery', requiring all reductions to be evenly distributed over the three Services and preventing the change of strategy these reductions demanded. Another was 'NATO strategy', so called, a peculiar political compromise that has evolved, not from strategic principles, but as the result of a series of historical accidents, including the one that now devotes the greater part of the British defence effort to the North German Plain.

These and other constraints, some domestic, some international, have had the consequence of producing a particular 'mix' of British forces, for which it has *then* been necessary to devise, not very convincingly, a plausible strategy. That is why the Navy has had to invest so heavily in the unlikely scenario of the Third Battle of the Atlantic. To survive, so it seemed, it has had to fit itself into an arbitrary pattern assembled, almost haphazard, by others.

British strategy today is not governed by any conception of achieving defined advantages or averting specific losses through the threat or use of force. Foreign policy is not regulated by military resources. As for the converse, the Chiefs of Staff said the last word in 1926:

'The size of the forces of the Crown maintained by Great Britain is governed by various conditions peculiar to each service, and it is not arrived at by any calculations of the requirements of foreign policy, nor is it possible that they ever should be so calculated.'

Today this state of affairs is often excused, with liberal use of such 'hurrah-words' as 'interdependence' and 'deterrence', by the argument that, for better or worse, we are committed to NATO, must conform to NATO strategy and can only produce, within the limitations of our own economic, political and institutional constraints, such forces as NATO strategy requires. This argument is at best disingenuous. It also needs to be weighed against two considerations. The first is that the Falklands conflict is only the latest of a series of significant operations since the Second World War in which the Alliance has been of little assistance (think of Suez in 1956 or Confrontation with Indonesia from 1963 to 1966). The second is that France has, for many years, managed to support a more coherent, consistent and independent policy in defence and foreign affairs. We need NATO, but we also need to adjust the present adverse balance between what we give and what we get.

In the Falklands crisis the irrelevance of NATO is neither surprising nor crucial. Conflicts outside Europe have always tended to divide the Alliance, as the United States were rather surprisingly indignant to re-discover in 1973. The Americans are only concerned with Super-Power rivalry and the Europeans with Europe. Both had every reason to believe — as did General Galtieri — that there was no need for Britain to fight for the Falklands. In the circumstances their benevolent abstention — a little more by some Allies, a little less by others — was as much as could be expected.

## The Americans are only concerned with Super-Power rivalry and the Europeans with Europe.

Now the situation is different — for Britain and Argentina alike. Blood has been shed, ships sunk, aircraft splashed, soldiers shot. There is no likelihood at all, whatever the outcome of military operations, that Argentina will abandon her claim, acquiesce in the indefinite continuance of diplomatic procrastination or put forward proposals that will appear to outraged British public opinion as a reasonable compromise. There are three possibilities: continued war after the British reconquest of the Falkland Islands; cold war and a continued threat; temporary Argentine passivity in the expectation of favourable developments. The negotiation of a lasting and peaceful solution can not be expected in the near future.

The final withdrawal of Argentine forces from the Falklands will thus leave the islands in continuing need of defence. The size and nature of the forces required will depend on the choice made by Argentina among the three alternative attitudes outlined above, but the British effort will almost certainly have to be greater than the kind of deterrent presence that might have sufficed before April 1982. Nor is there any immediate prospect of the British burden being alleviated, whether militarily or politically, by contingents from other countries. No foreign government is likely to undertake such an invidious responsibility in the absence of a framework of international understanding comprising Argentine acquiescence, provision for Anglo-Argentine negotiations and the expectation of an early settlement. It is difficult to envisage even British consent to such arrangements before the next General Election.

Nor is it at all certain that international participation in the defence of the Falklands would even be desirable. International forces, whether operating under the aegis of the United Nations or otherwise, are notoriously as reluctant to engage in serious fighting as they are prone to refer to their own governments for instructions whenever action seems imminent.

It would thus be sensible to assume that Britain would have to defend the Falklands unaided for at least three years.

This obviously demands at least temporary, but certainly drastic, revision of plans to reduce the Royal Navy to an anti-submarine force.





Wider and more lasting changes are also needed. The Falklands War has been another reminder — it ought to have been needless — that the balance of terror increases the likelihood of lesser conflicts, now averaging five a year. To these threats Britain is not immune and neither nuclear deterrence nor alliance offer a sufficient answer. Limited attacks — even Soviet attacks — can always come in under the political radar.

## The balance of terror increases the likelihood of lesser conflicts. To these threats Britain is not immune.

Appropriate force is needed and the ideal instrument for its application is a flexible and versatile navy — not one consecrated to that 1914 illusion: the single scenario.

Naturally the Falklands should not replace that single scenario: the death duties of our imperial past should be paid off as soon as it is politically possible and we should concentrate on the defence of our own islands. In doing so we should not be hypnotised by the gravest threat — which we could not possibly meet — and think instead about those small wars which are more likely, which we might again have to fight on our own and which we could actually win.

In the long run, the most important feature of the Falklands War may be the fact that it was unexpected. If we have the sense to draw the necessary conclusions, to

realise that our political and strategic ideas require radical reappraisal, then the needless sacrifices of our fellow-countrymen will bear a richer fruit. But the effort must be our own. We must not suppose that allies will be more able or inclined to rescue us from the consequences of future errors than they have been from those that are past. Only a national policy can correctly shape the development of national resources and offer some hope of national survival. □

*Sir James Cable, a retired British Ambassador, now spends his time writing on international relations and naval affairs. His last book was Gunboat Diplomacy 1919-1979 (Macmillan 1981) and the same publisher will be issuing Britain's Naval Future next year.*

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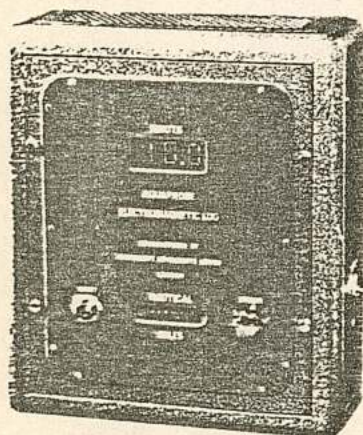
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# Britain Invited Argentina Into Falklands

by Raymond V B Blackman, MBE, CEng, FIMarE, FRINA



Great Britain invited Argentina into the Falkland Islands as clearly as any absentee landlord could to a would-be squatter with covetous eyes on them.

With incredulity and delight Argentina must have viewed the present Government's successive steps to reduce the Royal Navy to the state in which it apparently could only defend its home shores and barely fulfil its commitments to NATO.

These steps were:-

—The double-decimation of the Royal Navy in ships and personnel during two successive recent years:

—The well publicised announcement this year that HMS *Endurance*, 3,600 tons, Britain's sole naval policeman in the South Atlantic area (the Antarctic ice patrol vessel for half the year for some years past) was being withdrawn without replacement:

—The almost unbelievable decision by Britain to sell the brand-new jumpjet aircraft carrier *Invincible*:

—The listing for disposal of Britain's only two amphibious assault ships, *Fearless* and *Intrepid*, each of 12,120 tons full load (fortunately rescinded later — both of these ships were well used in the task force):

—The official decisions to close HM Naval Base, Chatham and to rundown Portsmouth Dockyard:

—The British new policy intention of not introducing the latest weapons systems into destroyers and frigates at half-life modernization:

—The premature retirement of, and swift approval to scrap, the commando and anti-submarine helicopter carrier *Bulwark*, 27,705 tons full load:

—And the untimely scrapping recently of the heavy repair ship *Triumph*, displacing 17,500 tons, a former aircraft carrier specially converted for Fleet maintenance.

These ill-advised naval cuts followed the breaking up of the large and invaluable fixed-wing aircraft carriers *Eagle*, displacing 50,538 tons full load — which had just undergone a long and costly reconstruction and modernization — and *Ark Royal*, 50,786 tons, which, with their unsurpassed *Buccaneers* and *Phantoms* and their *Gannets* giving airborne early warning capability, would have provided assurance against British destroyers and frigates being destroyed by missiles from enemy aircraft and increased the toll of hostile aircraft shot down.

All these cheeseparings economy measures clearly indicated to the would-be aggressor that Britain was in no state of mind or material to fight a maritime defensive action overseas, let alone wage a full-scale war as far distant as the South Atlantic, and that the Royal Navy

would be hard put to it to project any large enough force quickly enough to the Falkland Islands to be effective.

It must have come as a shocking surprise when at such short notice the Royal Navy, despite ships refitting and others under the shadow of the axe, exhibited to the Argentinians and to all the world such a wonderfully successful exercise in mobilization, which included providing mercantile and passenger ships adapted for military sea-lift almost overnight.

Both of the remaining British aircraft carriers, *Hermes* displacing 29,000 tons, and *Invincible*, were in Portsmouth Dockyard, and other warships were also undergoing routine refit or giving leave to their companies of officers and ratings.

Now was the time to strike, the Argentinians decided.

However capably the British Government, through the quality and skill and mettle of its armed forces, has fought the battle to regain the Falklands Islands, a great many people will never forget that, in their view, the Government directly caused the battle by too drastically reducing the strength of the Royal Navy, and its shore support, and advertising that sorry state to all the other governments in the world.

Some say that those responsible for the swingeing defence cuts must be brought to book.

More unforgivably a harder school thinks that if the Minister of Defence is culpable his head must roll.

If he is not answerable for Great Britain's massive humiliation, if he is merely a puppet, then whoever was accountable, above him or below him, must, say the severest critics, be made answerable for a war that could have been avoided by being prepared with adequate watch and ward.

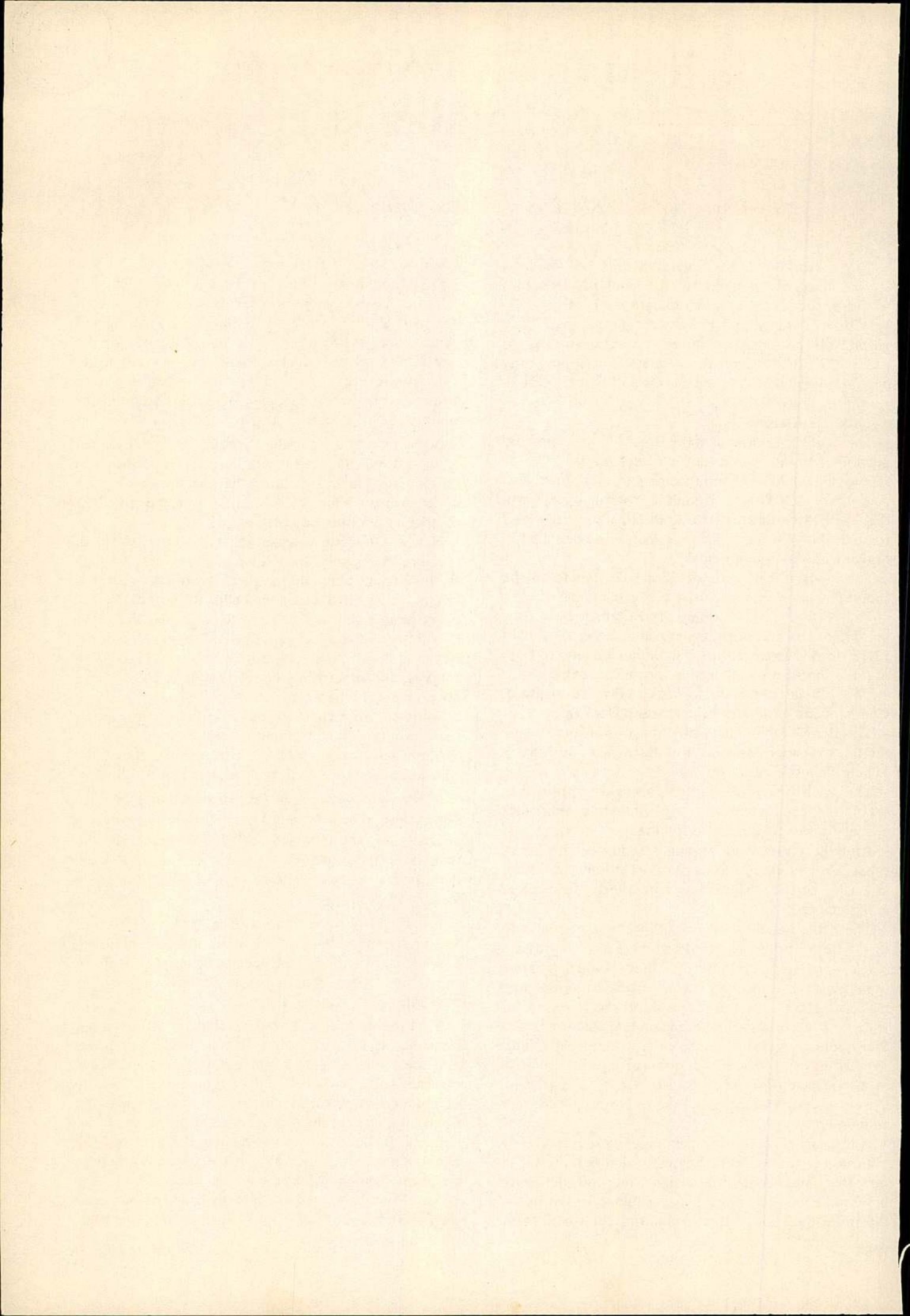
The Royal Navy, on the surface, under the surface and above the surface of the sea routes and stations, must be large enough, and seen to be large enough, to constitute a deterrent against war by the use of conventional forces.

If it can sink to such a low level that a dictator cannot recognise it as a deterrent then it has failed in its purpose. Never again must the strength of the defence services, particularly the combined maritime forces, go up and down according to the political dogma and financial fancies of the Government of the day.

Great Britain must have the Royal Navy that the country needs, and not an emasculated navy that (a government might think) the nation can afford.

Next time the aggressor's invasion could be nearer to the British Isles and not so far away as the Falkland Isles.









ESCUELA DE GUERRA NAVAL

TACTICA

FALKLANDS FOLLOW-UP

(Defence Attache NOV. 4, 82)







# Falklands follow-up



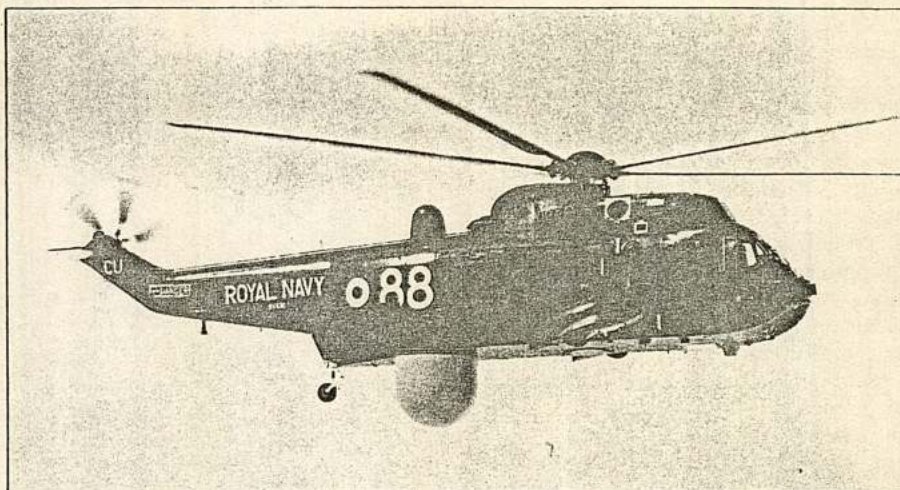
FOLLOWING the conclusion of hostilities in the Falkland Islands, the British Ministry of Defence on July 1 announced decisions to replace losses and remedy deficiencies brought to light during the campaign, and on August 5 issued an interim performance report on some of the equipment employed (see page 57 for extracts from text).

The loss of two Type 21 general purpose frigates and two Type 42 air defence destroyers is to be offset by a mix of re-ordering and retention. A £135m contract is to be placed with British Shipbuilders for the construction of a ninth Type 22 *Broadsword*-class frigate, the eighth (and supposedly the last) of which was ordered from Yarrow earlier this year. No other new hulls will be ordered until 1984, when the first of the follow-on Type 23 class is due to be contracted out. In the interim the Royal Navy's order of battle will be kept up by delaying the paying-off of two 6,200-ton *County*-class air defence destroyers (equipped with Sea Slug surface-to-air missiles, which appear to have scored no hits in the Falklands), and the 7,100-ton Sea Dart-equipped destroyer *HMS Bristol*, which is a relatively modern vessel commissioned in 1973 and has a full Link 11 plus Satcoms fit to enable her to serve as a communications "gateway" between British and allied naval forces. The abandonment of the plan to sell the carrier *HMS Invincible* to Australia was separately announced.

## Shortage

Fourteen Sea Harriers are being ordered, seven as direct replacements for those lost (including one which crashed at Yeovilton). The others are likely to be employed primarily in pilot training to rectify the present shortage of qualified fliers.

New orders for helicopters will replace losses and also strengthen reserve holdings. A recent order for five Sea Kings will be increased to 16, eight in the ASW role (Mk5) and eight in the Commando role (Mk4). In addition, three Lynx and up to five Gazelle will be bought. Known helicopter losses include five ASW Sea Kings, one ASW Wessex Mk3 (aboard *HMS Glamorgan*), eight Commando Wessex Mk5, three ASW Lynx (aboard *HMS Ardent* and *Coventry* and the *Atlantic Conveyor*) three Gazelle, one Scout, and three RAF Chinook. Replacements for the last mentioned are to be ordered from Boeing; an aircraft of this type captured from the Argentines



One of the two AEW Sea Kings with modified EMI Searchwater radar in inflatable, rearward-swinging radome. Note ESM antennas

has been pressed into service.

To meet immediate operational requirements a number of conversion programmes have been put in hand. The Victor tanker force is to be supplemented by the conversion of six Vulcan bombers and four Hercules transports to the air-to-air refuelling role. The Vulcans are expected to be retired as soon as sufficient VC10K tankers (a pre-Falklands project) become available, but the Hercules may have to endure rather longer as they are the aircraft best suited to the air-to-air refuelling of standard Hercules transports.

To provide an organic fleet airborne early warning capability, two Sea King Mk2s have been fitted with modified EMI Searchwater air-to-surface surveillance radars and are now aboard *HMS Illustrious*, second of the *Invincible* class carriers. The Sea Kings are said to retain their original ASW fit (Type 195 dunking sonar plus dorsal ASV radar). To maintain continuous coverage it is thought desirable to have a minimum of four such aircraft, plus one home-based for training. As many aircraft again would be required if both the operational carriers were to be given equal protection. However, the money-watchers of the MoD may well argue that organic AEW capability is only essential for out-of-area operations, and that in the North Atlantic the coverage to be provided by land-based E-3A AWACS and Nimrod AEW aircraft will always be available.

US-supplied additions to British forces' inventories include the air-launched version of the Harpoon anti-ship missile, installed in the weapons bay of Nimrod MR2 maritime patrol aircraft. Pressure of time prevented the "shake, rattle and roll" prov-

ing of a pylon installation, but Harpoon nonetheless proved readily compatible with Nimrod's Searchwater radar, and gives an anti-ship strike capability out to more than 70 miles, a range substantially greater than that of the AM39 Exocet operated by the Argentines. The Shrike anti-radiation missile is thought to have been mounted under the wing of Vulcan bombers, including the one that was forced to land in Brazil because of lack of fuel. Two General Dynamics Phalanx 20mm close-in weapon systems, drawn from US Navy stocks, have been fitted to *HMS Illustrious* (see picture, page 9).

The fact that many Royal Navy ships have only partial-band coverage within their on-board ESM equipment has prompted a rush of orders for add-on modules for the UAA-1 Abbey Hill ESM system, most particularly to provide denser coverage in that part of the band used by the Exocet anti-ship missile's CW radar. Ashore on the Falklands the RAF is understood to be using a captured AN/TPS-43 3D ground air defence radar, and is supplementing this with a number of other radars including two Marconi Radar S600 systems.

The interim equipment performance report is most interesting when referring to air defence weapons, though 31 of the estimated 109 Argentine aircraft destroyed have yet to be credited to specific causes (and some of them are known to have come to grief while taking evasive action). Claims at present unrecognised are those lodged by personnel manning 4.5in guns and general purpose machine guns, a Pucara downed by a Harrier GR3 firing 30mm Aden cannon, an A-4 hit by a Stinger shoulder-launched missile, and an unstated aircraft hit by the gunner of a Scimitar reconnaissance



Continued from previous page.

vehicle armed with a 30mm Rarden cannon.

Rapier, with 13 confirmed kills (achieved by a single battery of 12 optical fire units) the most successful ground air defence missile, attracted press criticism over its reliability. Though it is conceded that there was some unserviceability arising from weather exposure and restricted maintenance during the 8,000-mile voyage to the Falklands, its supporters say that proper tasking and siting was perhaps the most telling factor in system effectiveness. Despite extremely limited back-up, usually in the form of infrequent helicoptering of maintenance crews between fire units, the claims lodged by the Rapier crews are believed to indicate a single shot kill probability as high as 50 per cent. No official comment has been forthcoming on the relative performance of Roland 1, of which one or two fire units were known to have been deployed by the Argentines. The latter are said to ascribe eight Harrier kills to this system alone, but sources suggest that a total of some seven Roland missiles may have been fired and that they possibly resulted in the loss of a single Harrier.

### Unfavourable

The weight of the Blowpipe shoulder-launched missile, in other theatres normally transported by vehicle, did not endear it to all its users, most of whom had to move on foot. Nonetheless it achieved the second highest total of kills (eight, as did the ship-borne Sea Dart). In British hands Blowpipe hit no fast jets, but the Argentines are acknowledged to have downed one Harrier GR3 (and two Gazelles) with it. Unfavourable comparisons were drawn in the press between Blowpipe and the IR-homing Stinger, which was regarded as much more "humpable" since it weighs 5kg less. No confirmed kills have so far been ascribed to Stinger, which was apparently being operated by the Special Air Service Regiment. A small number of rounds are believed to have been launched, with one hit against an A-4 which may have already been set on fire by other means. The word in Whitehall is that reservations previously expressed on IR-homing missiles in the ground-launched role were not disproved in the Falklands.

Sea Dart, one of the more numerous missile systems in the Fleet, was employed prophylactically on occasion, missiles being fired at extreme range to dissuade Argentine pilots from approaching their targets. For all that, eight kills were attained, of which HMS



The first of 138 CF-18 strike fighters for Canada made its maiden flight from St. Louis on July 29. Six days earlier, Spain became the third foreign customer for the F-18 (the other is Australia) when it announced an order for 84. Deliveries are due to begin in 1986

Coventry is known to have accounted for three (all Skyhawks) on the day she was sunk. Sea Wolf, fitted on only two ships (HMS *Broadsword* and *Battleaxe*) has been accorded five kills, one less than the much older and more numerous Sea Cat fitted aboard the majority of warships. Sea Skua, the helicopter-fired anti-ship missile hurried into service ahead of schedule, is credited with a 100 per cent hit rate, all seven rounds fired striking their targets.

Notwithstanding Argentine successes in sinking both the Type 42 destroyer HMS *Sheffield* and the wholly unprotected container ship *Atlantic Conveyor* with air-launched AM39 Exocet, this missile is regarded as being highly seduceable. Chaff decoys are known to have been successfully deployed on at least two occasions. It is believed that the missile that struck the *Atlantic Conveyor* had been turned away from its designated target. An add-on chaff dispenser is being considered for merchant ships called up in future.

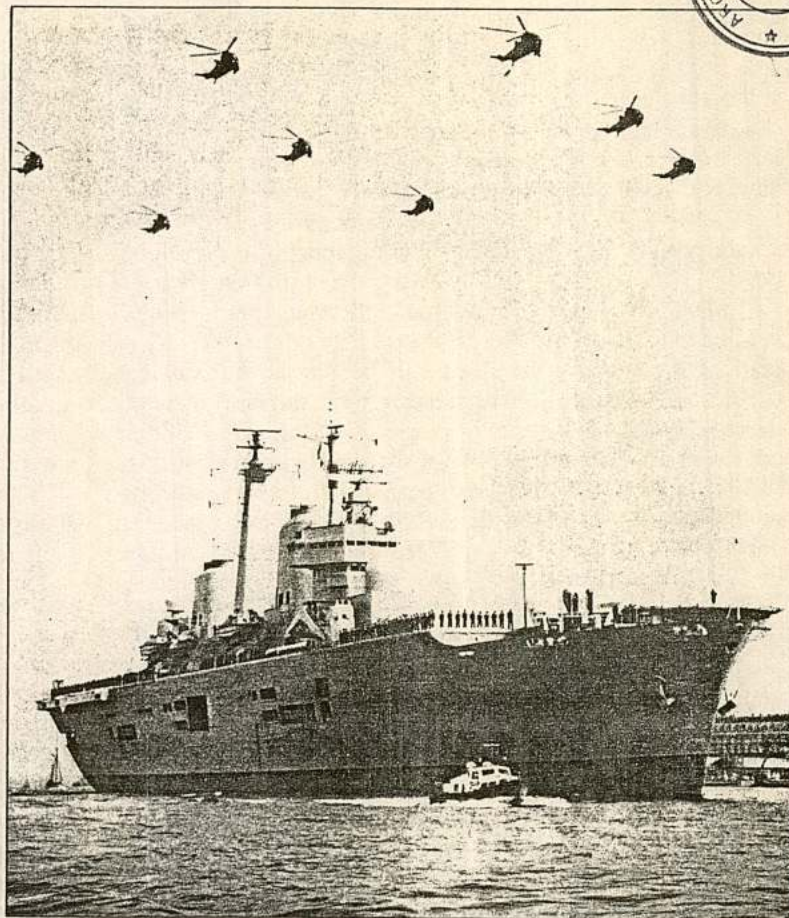
The loss of HMS *Sheffield* may well serve to drive home the folly of disregarding deficiencies in Fleet electronic warfare capability, and electronic equipment incompatibilities, that have been well known in naval circles for several years. It has been reported that the ship's Type 965 early warning radar was switched off to avoid interference with the SCOT satellite communications system which the ship's captain is said to have been using at the time of the attack. Whatever the truth of that, it could be that the ship's UAA-1 passive listening gear was also rendered inoperative, for it is known that complaints have in the past been registered by users concerning interference between SCOT and UAA-1 in certain radar bands, including those associated with the guidance of standard Soviet air-to-surface missiles such as the AS2 and AS6. Though UAA-1 as a modular five-

band system can be configured to cover the full 1-18GHz frequency range, it has not in the past been considered necessary to provide a full fit for every ship. In *Sheffield's* case one could therefore speculate not only whether UAA-1 was operative, but also whether her particular fit would have embraced Exocet frequencies or those of the Agave radar carried by the Etendard launch aircraft. It is not known whether it is still the case that some ships cannot readily identify other airborne radars such as those carried by Badger maritime patrol aircraft (Puff Ball?) or whether the number of warner channels (originally six, set by the operator to cover the high priority threat frequencies) is in line with the needs of the NATO operating environment. Much of the UAA-1 operating experience accumulated in the Falklands war (which is regarded as having been relatively benign in EW terms) will presumably be exploited in the development of the successor system, believed to be known as Millpost, but if UAA-1's protracted development is anything to go by this is unlikely to see service for many years.

With two of Britain's newer underwater weapons, the Mk24 Tigerfish heavyweight and Sting Ray lightweight torpedoes, deployed in theatre it was doubtless galling for some to learn that the only torpedo known to have been fired in anger was of pre-1939 design. The fact that the cruiser *General Belgrano* was sunk by a brace of unguided Mk8 torpedoes fired from short range by the nuclear hunter killer submarine (SSN) HMS *Conqueror* (one blew off her bow, and the other struck amidships) underscores the Royal Navy's pressing need for a modern high-lethality anti-ship weapon for submarine launching, such as the Sub-Harpoon missile system or the 7525 torpedo, so that submarines need not be hazarded close to surface targets.



*Strong pressures for changes in the emphases of British defence policy are being felt in the wake of the Falklands conflict. Defence Secretary John Nott, who went ahead and published his annual White Paper — written before the South Atlantic affair developed — unchanged on June 22, has promised to go back to Parliament in the autumn (taken to mean either October or November) with his considered view of what revisions are necessary in his 1981 blueprint, The Way Forward, in the light of the Falklands experience. Here Field Marshal Lord Carver and Mr. David Greenwood (beginning on page 15) give their opinions.*



## Steady on course, coxswain!

by Field Marshal Lord Carver

THIS year's Defence White Paper will have been read with greater attention than most of its predecessors, firstly because of the circumstances in which it was published and secondly because of its intrinsic interest. Potential critics of the Government's defence policy, which was described in the Defence Secretary's *The Way Forward*, published in June 1981, will thumb through the 55 pages of Volume I (32 pages slimmer than last year's), searching for statements which they can seize upon to show that the Falkland Islands operation proved it wrong. This is the risk that Mr Nott ran by publishing it immediately after the operation ended. He was wise to do so, as it stands up well to critical scrutiny.

The opening chapter on Nuclear Forces does not repeat in any detail the Government's well-worn arguments for maintaining an independent strategic nuclear deterrent. It restricts itself to stating that the question is whether the possession of it by Britain "would make it more or less likely that the Soviet Union would mount a conventional or nuclear attack on us or our NATO allies" and continues: "There can be no doubt about the answer". Hastily remembering the existence of US

nuclear forces with the phrase "This is not to say that the United Kingdom deterrent is a substitute for the American nuclear guarantee", it evades the possibility that the answer is neither "more" nor "less", but that it makes no difference. On the assumption that it is the UK's independent deterrent which is decisive in deterring a Soviet invasion of Western Europe, the White Paper contrasts the value "of an invulnerable second strike SLBM force" with that of two armoured divisions, assuming that its abandonment would enable us to raise them. Many people would consider the addition of two British armoured divisions to NATO's Central Front as being a very significant increment to the conventional deterrent, while Britain's Trident force can be regarded as superfluous to the American. The same reasoning applies to the Government's well-worn comparison of the costs of the Trident with the Tornado programme. The fallacy of its argument is that Tornado is a flexible weapons system that can be used for a variety of conventional, as well as nuclear, purposes, whereas Trident cannot logically be used at all.

The interest of this chapter lies in the detailed arguments supporting the Government's decision not only to buy the D5 Trident missile, with its implications for the size of the submarine, but to design the boat to take 16 missiles and to equip it with newly to-be-designed sonar and nuclear propulsion systems, as well as new warheads. The paper admits that the combination of all these elements in the design will increase the estimated

*Heading picture: HMS Illustrious sailing in early August for the South Atlantic. Note Phalanx CIWS fore and aft*



cost of the programme to £7,500 million, which, given the unknown element of the newly to-be-developed systems, is bound to escalate — and all this for a system which “is not a substitute for the US nuclear guarantee”. What then is it for?

Chapter 2, on Conventional Forces, highlights the point made in *The Way Forward* — the escalating cost of new equipment, the provision and repair of which will now absorb 46 per cent of the defence budget — the greater part of that on air equipment, most of it no doubt on the Tornado programme. Interest centres on what is said about the naval programme, reflecting the decisions announced in *The Way Forward*. “Older and more manpower-intensive warships will be phased out during the next few years and will make way for the new types of destroyers and frigates now entering service and under construction.” Doubts previously expressed about the future of the Type 22 frigate, enthusiasm for the concept of a simpler, less sophisticated successor, the Type 23, and the decision to transfer *HMS Invincible* to Australia in 1983 have all now been subjected to second thoughts.

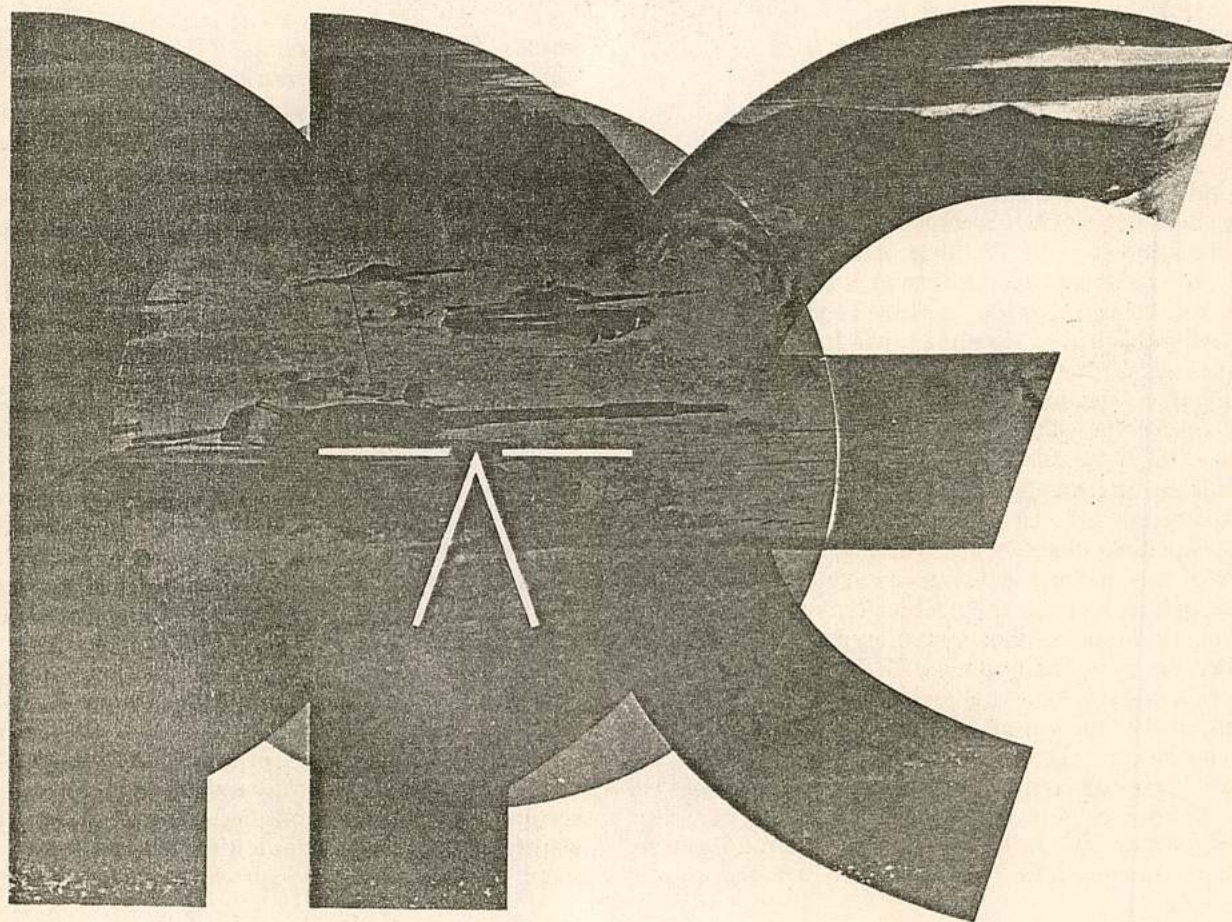
There are no surprises in what is said about the Army programme, and it is reassuring to note the final sentence — “We shall devote similar attention to its powers of endurance by building up war stocks at every opportunity”. The insert referring to the Territorial Army gives encouraging news, especially the improvement in its anti-armour capability. Nor is there anything surprising in the section devoted to the RAF. The Falkland Islands operation will have reinforced confidence in the decision to replace the Harrier with the Anglo-American AV-8B, as well as that to go ahead with the JP 233 airfield attack weapon in view of the disappointing results of the air

attacks on Port Stanley airfield in terms of runway damage. The importance of air-to-surface missiles and of air-to-air refuelling were other lessons of the campaign which support the Sea Eagle programme and will probably mean an increase in the VC10K tanker conversion programme, both of which are referred to.

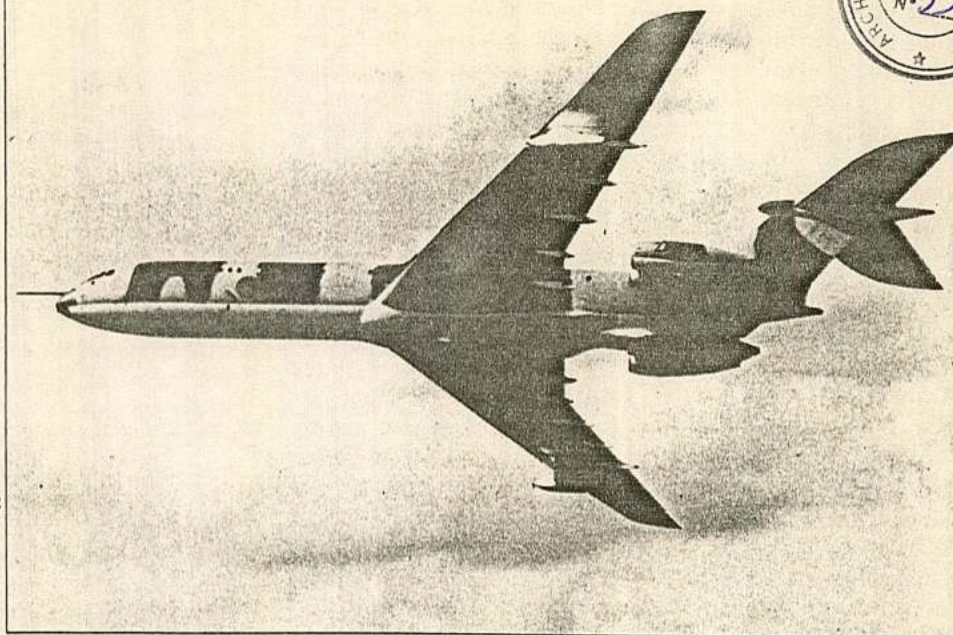
Paragraphs 235 and 237 now have an ironic ring. The first announces that “we plan to deploy a naval task group of five warships and afloat support, headed by *HMS Invincible*, to the Indian Ocean and east Asia for six months”. If Argentina had waited until that had been set in train, the assembly of the task force to recapture the Falklands would have been a much slower and complicated affair. The second includes the sentence: “The retention of *HMS Fearless* and *Intrepid* will enable us to maintain our capability to conduct amphibious operations not only on NATO’s northern flank but also out of area”. Opponents of *The Way Forward* decisions will recall that it was only after a personal visit to *HMS Fearless* that Mr Nott saved her from the scrapheap.

The most interesting and original section of this chapter is the insert on Use of National Resources, in which suggestions are made for greater use of existing civilian skills and resources “to increase our deterrent and defence capabilities”. The service rendered by requisitioned shipping of all kinds in the Falklands operation was a triumphant example of that. It is encouraging to see the Ministry of Defence showing interest in developing this concept in other fields.

Chapter 3, *The Balance*, throws no new light but sets out the established case clearly. In the nuclear field, the balance of European Theatre land-based nuclear delivery systems is made dubious by the inclusion of 2,000







*Right: the first of nine VC10K tankers, converted from retired airliners, made its maiden flight in its new configuration from the British Aerospace Filton plant on June 22. Next day Defence Secretary John Nott opened BAeDG's Sea Eagle centre at Hatfield (below)*



provides a clear summary of where the money and manpower go in general terms, the detail being set out in the statistical tables in Volume II. In the table comparing the defence expenditure of the countries of NATO in 1981, Britain takes third place (after the USA and Greece) in percentage of GDP, second to the USA and above France and Germany in total expenditure, and third (after the USA and France) per capita, the last two being expressed in US dollars and therefore affected by exchange rates. The other main point of interest in this chapter lies in Paragraphs 507-9, under the heading of Reorganisation in the Ministry of Defence. Explaining the decision, announced last year, to modify the formal position of the Chief of the Defence Staff in relation to the other Chiefs of Staff, it explains that, instead of the CDS being responsible for seeing that the Chiefs of Staff Committee renders agreed advice to the Secretary of State, and being supported by the Central Defence Staff to help him to do so, he is now to use the Committee as a forum in which to consult the other Chiefs of Staff before formulating his advice, which will also be based on that of the Central Defence Staff, responsible directly to him. In areas of resource allocation and balance of investment questions, the paper states that "Ministers look to the Chief of Defence Staff for independent and timely advice

on military priorities across all our defence commitments and programmes". It will be interesting to see what difference this makes in practice and what lessons, if any, the Falklands operation may provide in this field.

The statistics in Volume II are a mine of information for the curious. They are misleading over recruiting trends. In Paragraph 203 of Chapter 2 in Volume I the Government claims the credit for being able to state: "We no longer have difficulty in recruiting all the men and women we need", attributing it "for the most part" to "the restoration of Armed Forces pay to its proper levels and the Government's commitment to keep it there". The contribution made by the high level of unemployment, and the reduction in the target establishments of all three Services for financial reasons, are naturally glossed over. One of the things which the statistics do not reveal is the cost attributable to stationing Service families in Germany. This has for some time been a source of criticism in naval circles and is likely to surface as the argument over the size and shape of the Fleet heats up in the wake of the Falklands operation. The naval argument is that, if only the Army and the RAF accepted unaccompanied service, as the Navy, at least those serving in ships, is forced to do, enough money could be saved in the defence budget to keep the Fleet in being or indeed expand it. When faced with the argument that it would be impossible to recruit and keep sufficient men in the Army and Air Force, if they could not be accompanied by their families (Tables 4.12 and 13 of Volume II show that half their Servicemen of all ages are married, the percentage of senior ranks, commissioned and non-commissioned, naturally being higher), they raise no objection to reverting to National Service, on the calculation that it would only affect the Navy marginally. They keep quiet about the fact that HM ships spend much more time in port than they do at sea, another statistic which does not appear in the tables.

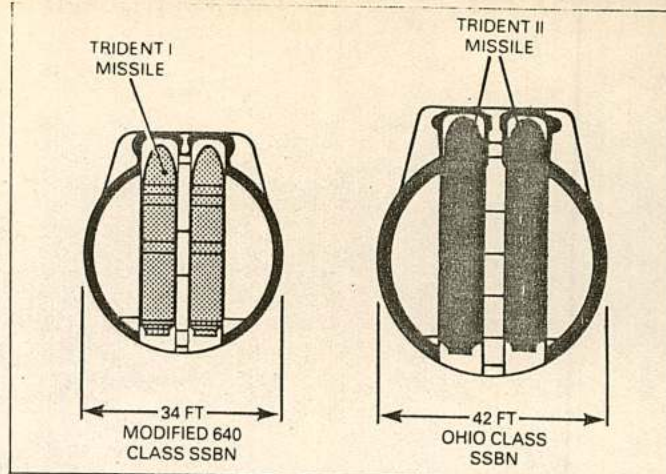
In sum, the message is that given by the heading of this review, and it is to be hoped that the Defence Secretary will keep a firm hand on the tiller and not allow himself to be blown off course by adverse political or military winds.



medium range aircraft on the Soviet side — Fitters, Floggers, Fishbeds and Fencers. Although they are technically dual-capable, there is little evidence to show that they are intended for use in the nuclear role. In any case the potential overkill is so great that the numbers that are intended for or might be used in that role are of little relevance. Comparison of the conventional balance in the land, air and naval fields illustrates clearly that the prime need to redress it lies in the field of land and air forces.

The insert devoted to Arms Control and Security repeats the phrase which has featured in previous Defence White Papers: "The ultimate goal is general disarmament to a level of national forces sufficient only to ensure internal law and order", and reminds us that the United Kingdom endorsed that principle at the First UN Special Session on Disarmament in 1978. Quite rightly the Prime Minister, in her address to the recent session in New York, showed little enthusiasm for such a principle, which would create a state of total insecurity in a world of nation-states. It is time that such humbug was dropped.

Chapter 4 on Defence Equipment harps on the theme of escalating costs, and includes the interesting revelation that "Examination of procurement records over recent years suggests an average annual figure, over and above inflation, of 6 per cent to 10 per cent on capital production costs of major equipments. Some equipments exceed this." Like all previous Governments, the present one searches for ways to mitigate this trend by improving procurement procedures within the defence machine, by closer co-operation with industry, by simpler design, by greater international collaboration and by expanded overseas sales to provide longer production runs and



*Trident model change with unknown costs*

amortise development costs. The fact that most of these aims conflict with each other is partially recognised in Paragraph 414 on Collaboration with Allies, one sentence of which states: "The harmonisation of differing military requirements can lead to undue complexity, undermining cost advantages both in development and production, as well as giving rise to higher in-service costs associated with greater sophistication". One sentence in Paragraph 409 on overseas arms sales will not escape notice: "The sale of British defence equipment overseas, within a controlled framework designed to safeguard our wider political and security interests, is of increasing importance". Doubts about the "controlled framework" will, no doubt, be expressed.

Chapter 5 on Money, Management and Organisation

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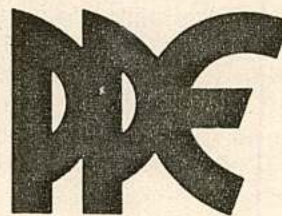
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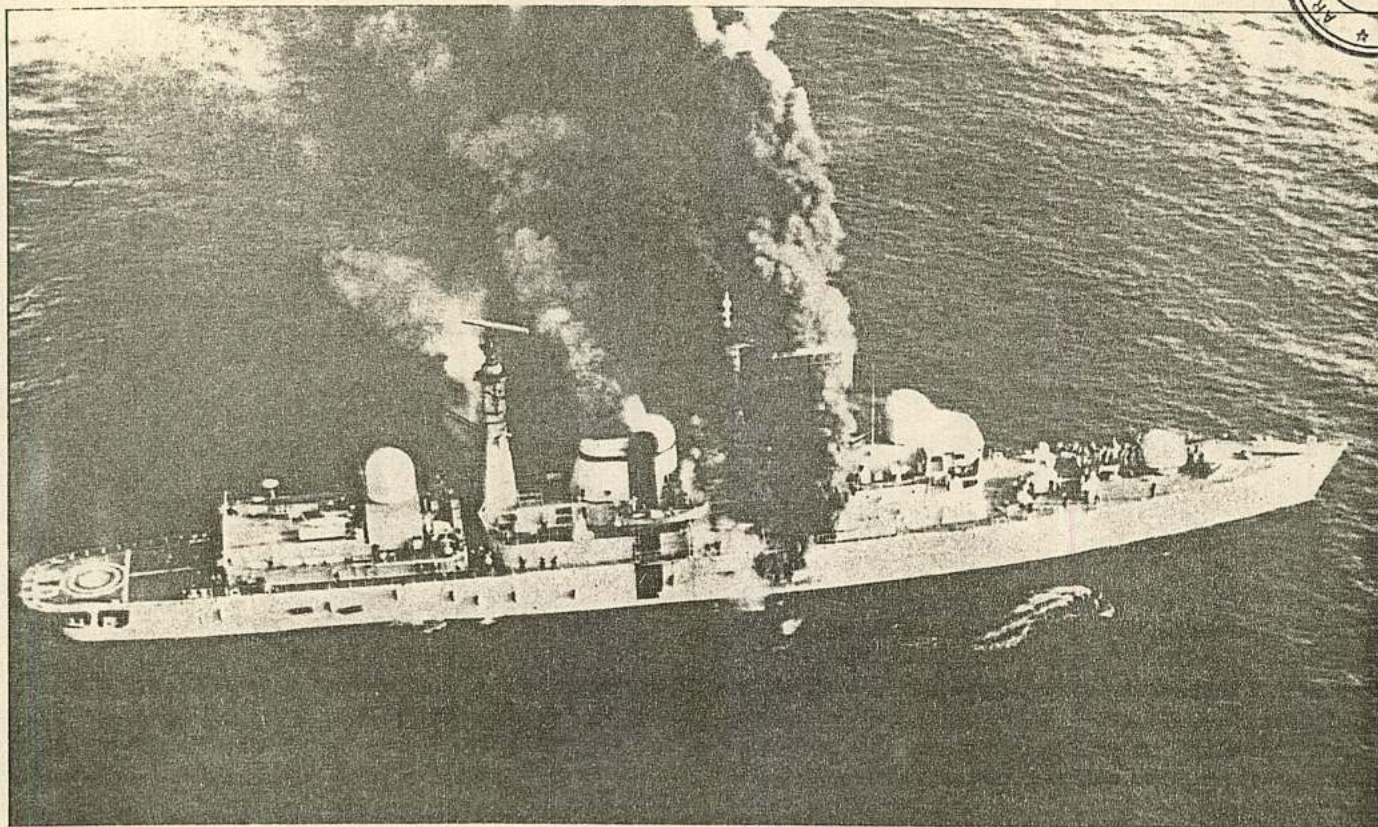
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## Revising the blueprint

by David Greenwood

AS the 1981–82 Parliamentary year drew to its close nobody in the British Government actually went so far as to speak dismissively of the contretemps with Argentina in the South Atlantic as “a little international difficulty”. There was, however, a definite attempt to affect an air of “defence business as usual” at Westminster. Just six weeks before MPs began their long summer recess the delayed *Statement on the Defence Estimates 1982* (Cmnd 8529) was tabled, with not a mention — in the main text — of the Falklands imbroglio. Thereafter, the House of Commons found time not only to discuss and formally approve the White Paper (on July 1 and 6) but also to hold full debates on the Navy, Army and Air Force Estimates (in the following fortnight). Thus its year finished with no loose ends, at least so far as the formalities were concerned.

But tucked into the front of each copy of Cmnd 8529 was a loose sheet — a 300-word Ministerial Foreword dated June 18 1982 — which did mention the Falklands. In it, Secretary of State for Defence John Nott made observations about the events of the preceding three months and how the Government proposed to assess their implications. The despatch of the task force and its subsequent performance testified, he wrote, to the “pro-

fessionalism, preparedness and flexibility” of the Services and to the fact that “our force structure is adaptable enough to permit an effective and timely response to developments both within and outside the NATO area”. However, he continued, “the main threat to the security of the United Kingdom is from the nuclear and conventional forces of the Soviet Union and her Warsaw Pact allies”. Accordingly, the principal judgments and priorities enshrined in the June 1981 policy document *The United Kingdom Defence Programme: The Way Forward* (Cmnd 8288) remained valid, although the Ministry of Defence would examine the Falklands’ experience to see “whether any adjustments or changes of emphasis” might be required. “Only when the Falklands crisis has been fully studied will we be in a position to take reasoned and considered decisions on what adjustments need to be made to the defence programme,” the Secretary of State concluded, expressing in that statement broad agreement with the assessment already made in these pages (*Defence Attaché* No. 3/1982, page 21).

The senior officers and officials of the MoD’s Central Staffs and Service Departments are now doing their analyses, to provide the basis for Ministerial decisions about “adjustments” within the next few weeks. What sort of reasoning should they be engaged in? What considerations should they be taking into account? It is a fair presumption that the in-house work is proceeding on two levels. These are, first, evaluation of the performance of particular weapons systems (and equipment generally), to find out whether *procurement* plans need to be amended in the light of the operational experience that has been

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There appear to be many people only too anxious to throw out Mr. Nott's 1981 baby with the South Atlantic bath water, which would be very silly



gained; and, secondly, appraisal of the "balance" of the programme-in-being, to ascertain what alterations (if any) in *policy and priorities* seem appropriate, after reflection on all aspects of the affair.

Under the first heading, the important thing is that there should be careful inference. There has been an effusion of commentary, purporting to identify the "lessons" of the conflict. Much of it has been palpably superficial, showing little awareness of the possibility of circumstances unique to the engagements reported (not to mention the possibility that no one outside the Northwood headquarters is in possession of all the relevant facts). What must now be brought into focus are the half dozen critical questions about operational matters which are directly relevant to future acquisition choices.

Under the second heading, the important thing is that there should be sober judgment. Maybe there is a case for greater attention to possible challenges to national interests, and broader Western interests, outside the NATO area. And perhaps the pattern of priorities laid down in *The Way Forward* should be modified accordingly. What is not at all self-evident is that, among the conventional components of the defence effort, anything more than "modification" is required or practicable. Yet there appear to be many people only too anxious to throw out Mr. Nott's 1981 baby with the South Atlantic bath water, which would be very silly.

## Procurement

What are the "half dozen critical questions about operational matters" which ought to be addressed? The first and most obvious is: how vulnerable are surface ships to air attack, and what should be done about it? This is anything but a simple issue. Admiral Woodward's task force suffered four or five major losses and much

damage; but if the Argentine air force had not been operating near the limits of unrefuelled range, if it had possessed a bigger stock of AM39 Exocets and if all its bombs had gone off, then the toll would have been much greater. What is more, it was demonstrated that it may need only a single aircraft to penetrate to stand-off missile range for a major warship to be rendered completely ineffective, if not totally destroyed.

Of course, the Fleet operated under the handicap of a lack of airborne early warning (AEW). But AEW can only give defensive fighters time to scramble and intercept hostile aircraft outside the latter's weapon delivery range: it is not a lot of use if there are insufficient, or insufficiently long-legged, interceptors; and this quite apart from the fact that an unprotected AEW platform presents an attractive target in its own right.

Is the answer, then, more effective long-range surface-to-air missiles? It would be helpful if the evidence about the performance of Sea Dart were less ambiguous. Some of the early comments on the actions in Falklands' waters suggested that the system had been found wanting. It was argued later that, because the Argentines had a thorough knowledge of Sea Dart's capabilities, gleaned from their experience as operators of two Type 42 destroyers, their pilots took pains to stay out of the system's "envelope". That meant prosecuting attacks at low level, which brought fuzing problems (hence, perhaps, the unexploded bombs) and vulnerability to point defences (not only Sea Wolf but also Sea Cat and even small arms fire). If this is right, did Sea Dart prove its worth or didn't it?

Whether it did or not, the desirability of providing every warship with point defence weapons, against air attack and sea-skimming missiles from whatever source, seems to have been established beyond question. Except, that is, for the practical questions: what type of weapon, given the competing claims of for example Improved (lightweight) Sea Wolf and automatic gun arrangements like the Vulcan/Phalanx system; at what cost, given the



pressure to hold down the price of fighting ships in order to be able to afford worthwhile numbers of them; and with what implications for ship design, given that there is a limit to how much you can pack into the superstructure of a conventional escort hull? And that is leaving aside the toughest poser of all, which is whether the most cost-effective self-defence might not be elaborate electronic countermeasures and/or decoys.

Staying within the naval domain, a further cluster of issues relates to survivability after attack. Have bad choices about materials and fittings been made in the past, as many commentators have alleged; and, if so, why? The *prima facie* evidence, on such diverse things as aluminium structures and foam-filled mattresses, suggests that they have. But it is very important to ascertain the reason or reasons. Where it turns out to have been simply a matter of saving money, the 'solution' is straightforward. When it turns out to have been a matter of saving weight (or space), there looms again the design problem, which is emphatically not straightforward.

Turning now to air operations, by all accounts the Harriers, both the Royal Navy's Sea Harriers and the GR3s of the Royal Air Force which were pressed into service, are counted the success story of the Falklands affair. In fact so pleased with their performance is the Defence Ministry that it has ordered more, sufficient to make good losses in the South Atlantic and then some. It may seem churlish, therefore, to suggest that someone should ask (a) whether their excellent record in air

combat might have owed something to the constraints under which the adversary was operating and (b) whether their showing in attack missions would have been so good if they had been required to contend with first-rate air defences. Yet these are key questions when it comes to gauging the relevance of the Falklands' experience to provision for air warfare within the NATO area, and in relation to many an extra-European scenario.

There must also be hard-headed evaluation of the effectiveness of the many sorties which were flown by Harriers, following the high-level Vulcan raids, with the aim of denying the Argentines use of Port Stanley's airfield. What light does that experience shed on the controversies which surround RAF Germany's offensive counter-air mission? In the same vein, what light the task force's experience with helicopters sheds on arguments about their role in Europe ought to be examined with great care. There is a multiplicity of issues here, covering numbers, safety and reliability, night-flying and poor weather capabilities, the need for protection against hand-held missiles and much else.

So far as ground forces' equipment is concerned, any list of critical questions must obviously include — besides those to do with helicopters — a set related to air defence systems. How true is it that the soldiers' Rapiers were less robust and their Blowpipes more troublesome than their users had been led to expect? And at a more mundane but none the less important level, how true is it that the troops also found fault with such things as their boots and their rations?

It may be, however, that the most critical questions of all are those arising from the logistical aspects of Operation Corporate. Senior civilian officials at the Defence Ministry are reportedly staggered at the amounts of fuel, ammunition and other stores consumed in the undertaking. A root-and-branch revision of the assumptions underlying procurement of matériel may be on the cards, as the implications of this are digested.

On the other hand those same officials are, it is understood, well pleased at the manner in which civilian assets — principally, merchant ships — were brought into play for the operation, albeit with some imaginative improvisation and several rapid conversion jobs. Clearly there must be a painstaking analysis of this experience. Among other things, it is desirable to find out (1) in what other areas of activity the powers-that-be might plan similarly to utilise civilian resources and (2) in what ways prior preparation could, at reasonable cost, obviate the necessity for improvisation and rapid conversion. To cite just one instance here: since the Falklands operation demonstrated the utility — in this particular case, the necessity — of having all front-line aircraft types equipped for in-flight refuelling, should not the potential of commercial aircraft as tankers be exploited, e.g. by taking steps now to make some or all of the 737s, 747s and 757s owned (or ordered) by British Airways capable of fulfilling this role?

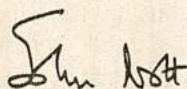
Even thus refined to a "half dozen critical questions" directly relevant to future procurement choices, this amounts to a formidable analytical agenda. For all that, it represents only half the exercise upon which Mr. Nott's Defence Ministry is engaged. Senior officers and officials have also to advise him whether, and if so how, the overall blueprint for Britain's defences, as set out in *The Way Forward*, ought to be amended in the light of the events of April-June 1982.

#### FOREWORD

1. This Statement on the Defence Estimates was drawn up before the Argentine invasion of the Falkland Islands. The speed with which we were able to despatch a large and powerful task force to the South Atlantic is a tribute to the professionalism, preparedness and flexibility of our Armed Forces and of the civilian staff who support them. It is also visible evidence that our force structure is adaptable enough to permit an effective and timely response to developments both within and outside the NATO area.

2. The events of recent weeks must not, however, obscure the fact that the main threat to the security of the United Kingdom is from the nuclear and conventional forces of the Soviet Union and her Warsaw Pact allies. It was to meet this threat that the defence programme described in Cmnd 8288 was designed. The framework of that programme remains appropriate. But it is right that we should consider whether any adjustments or changes of emphasis are now required. To this end we intend in the coming months to analyse the Falklands operation and to identify the key issues, not least in the area of defence equipment.

3. Some of these issues are already clear, others are likely to emerge as our analysis proceeds. The parliamentary debates on the Defence Estimates will provide a useful opportunity for a preliminary discussion. Only when the Falklands crisis has been fully studied will we be in a position to take reasoned and considered decisions on what adjustments need to be made to the defence programme. In the meantime the Statement is presented to Parliament as a description of the events of the preceding year and of the programmes and activities in progress in the period leading up to March when the final basis of this document was agreed.



Secretary of State for Defence

Mr. Nott's slip-in foreword





## Policy and priorities

The summer's deliberations on this subject have taken place against a backdrop of lively disputation. On the one hand, the Secretary of State declared his position unequivocally at the outset, his Cabinet colleagues presumably concurring. As noted earlier, he said in his Foreword to the *Statement on the Defence Estimates 1982* that "the main threat to the security of the United Kingdom is from . . . the Soviet Union and her Warsaw Pact allies", that the framework of the programme outlined in *The Way Forward* — involving a concentration of the defence effort on Europe and the North Atlantic — thus remained "appropriate", and that the Falklands operation had to be scrutinised to see whether "adjustments or changes of emphasis" might be required (but, by implication, not with a view to radical alteration). On the other hand, powerful voices were raised in the Press and Parliament — including those of the Editor of *The Times* and former Labour Prime Minister James Callaghan — demanding to differ, arguing that the policy assumptions and programme priorities embodied in the Government's "blueprint" were quite inappropriate, and calling the Falklands' experience in evidence.

This is not the place for a blow-by-blow account of the argument. Anyone wishing to sample it can read (a) back numbers of *The Times*, specifically the leading articles of June 21 and July 1 together with the correspondence they prompted and the riposte by Mr. Nott himself (in the features page on July 26) and (b) the Parliamentary Debates, notably those in the Commons on July 1 and July 6 plus that in the Lords on July 26. The question is: what does and does not make sense, on the real evidence of the Falklands crisis (as opposed to that which the protagonists have invoked, selectively, to bolster their predispositions and their prejudices)?

The key policy problem is this. As time goes by, there assuredly will be other challenges to national interests — or, more likely, to broader Western interests — beyond

the North Atlantic. Should or should not the United Kingdom pay more attention to this category of threat(s), ill-defined though it may be? Mr. Nott says not. For him, the "main threat" in and around Europe is the thing. If circumstances require the rapid deployment of British forces further afield the Minister would rely, again, on their "professionalism, preparedness and flexibility".

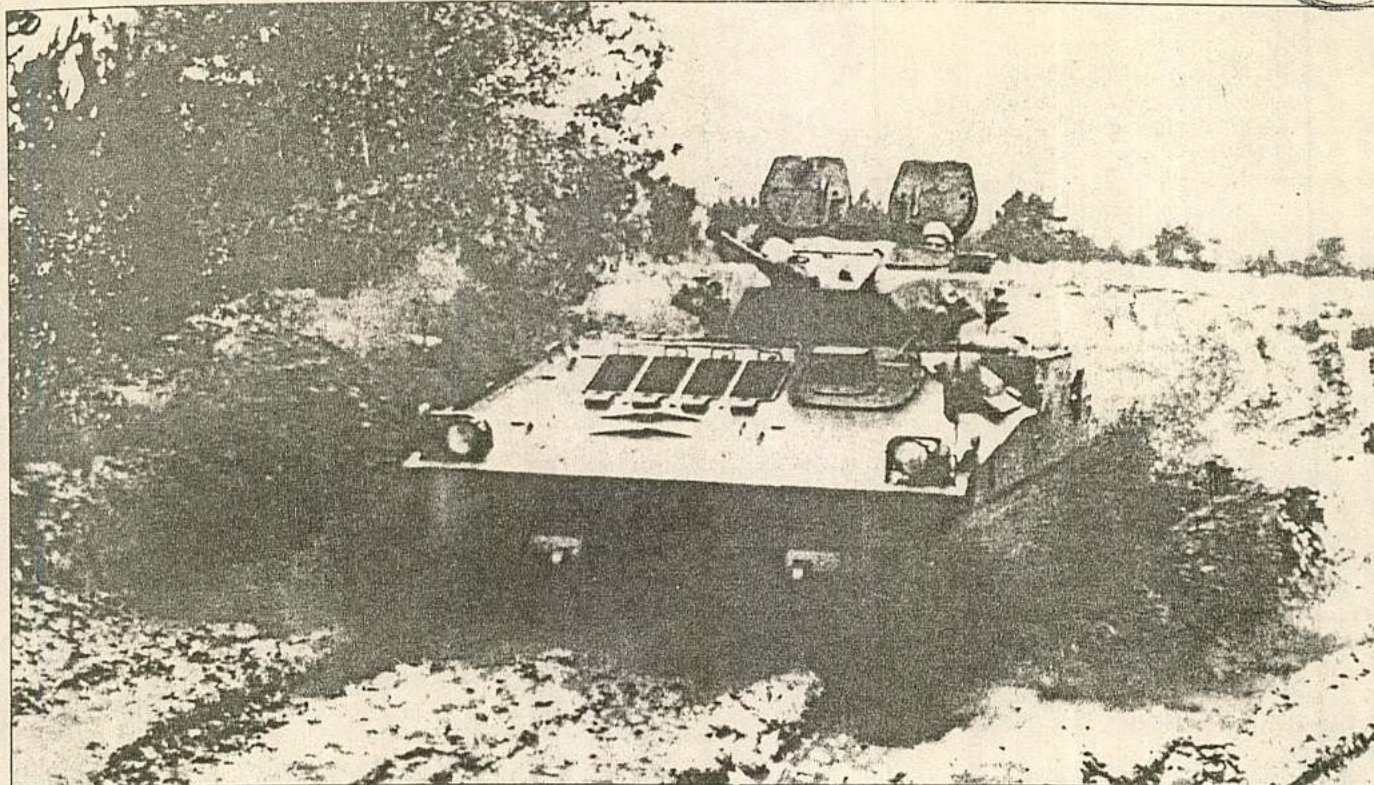
The strongest criticism of this approach is that preparation for the "main threat" does not automatically provide the right sort of capabilities for lesser contingencies, especially from the point of view of deterrence. In the South Atlantic, the initial failure was manifestly one of deterrence. The Franks Commission will have to ascertain whether the announced naval rundown and concentration on the North Atlantic amounted to contributory negligence by Britannia which virtually "invited" President Galtieri's rape of South Georgia and the Falklands. It appears as though they might have done. It appears that no one gave a 75th anniversary airing to the Foreign Office memorandum of 1907, written in protest against Fisher's reshaping of the Royal Navy to meet the single scenario of that day (a Fleet action in the North Sea), with its apposite reminder that in more distant waters "the opportune presence of a British ship of war may avert a disaster which can only be remedied later at much inconvenience and considerable sacrifice".\*

But two points must be made here, by way of qualification. First, in *The Way Forward* an intent was declared "to resume from 1982 onwards the practice of sending a substantial naval task group on long detachment . . . in the South Atlantic [and elsewhere]" and "to make particular use of the new carriers, with Sea Harriers and helicopters" in this connection. That ought to stand in mitigation of the charge of contributory negligence. Secondly, upon those who contend that, to meet "out of area" contingencies generally, there should be more

\* The author is indebted to Sir James Cable for both the metaphor and the reference in this paragraph.



Neither the political constraints on running down Rhine Army nor the managerial imperatives for reducing the nominal size of the Fleet have evaporated in the past 12 months



visible preparation and more regular deployments if not permanent extra European presences — upon these people there surely rests an obligation to identify where the funds are supposed to come from.

This is the crux of the matter. There is a case for “adjusting” plans to run down the surface Fleet and for strengthening such other elements in the national order of battle as are similarly suitable for tasks outside the NATO area. Indeed the Government has acknowledged it by deciding to cancel the once-proposed sale of *HMS Invincible* to the Australians, to retain the assault ships (and *HMS Endurance*) and to make the new Type 23 frigate a genuinely general-purpose vessel rather than a rudimentary ocean escort. The difficulty is money; or, more correctly, *priorities*. The budgetary projections for defence to 1984-85, published in the Government’s Public Expenditure White Paper on Budget Day, contain no headroom for substantial extra spending for “out of area” purposes without biting into provision for other things.

Is the solution, then, as many have asserted, to reduce Rhine Army yet further, thus freeing resources to sustain an undiminished Navy good for both North Atlantic missions and a global role? The cross-cutting lines of argument on this issue are bewildering. It is indisputable that, if considerations of geostrategic location, unique competence, traditional preference and comparative advantage were the be-all and end-all, the United Kingdom’s principal contribution to the Atlantic Alliance would take the form of maritime power. It is equally true that, in the 1981 defence review, the burden of adjustment to budgetary stringency might have fallen less on the Fleet and more on European theatre forces had there not been (1) inhibitions to interference with the explicitly

European elements in the British force structure, and (2) inviting targets for rationalisation in the nation’s naval dispositions (see *Defence Attaché*, No. 4/1981, pages 9-17.) However, for so long as NATO is organised as it is, other considerations enter the reckoning, like who would fill the gap (literally) if the United Kingdom were unilaterally to withdraw thousands of front-line troops from their place in the layer-cake dispositions of Northern Army Group. Added to that, neither the political constraints on running down Rhine Army nor the managerial imperatives for reducing the nominal size of the Fleet have evaporated in the past 12 months.

The “bottom line” on this theme is that whether Britain’s contributions to NATO should have a pronounced “maritime” or “continental” emphasis — and, indeed, whether they should incorporate a substantial provision for extra-European tasks — cannot be resolved without progress towards some division of labour within the Alliance, which would permit a degree of specialisation in roles and responsibilities among the nations.

The last word, though, on the broader question of what shape the defence programme should take, after the summer’s scrutiny, has to be about something completely different. The overriding priority assigned to the Trident programme, which no one in Mrs. Thatcher’s Cabinet seems inclined to query, intensifies the Government’s resource allocation problems dramatically, representing as it does £1,000 million-a-year’s worth of budgetary headroom in the later 1980s. There is no real margin for budgetary manoeuvre — to facilitate revision of procurement plans, changes of emphasis in policy or adjustment to the pattern of programme priorities — for so long as the Prime Minister remains committed to this extravagance. ■



# Falklands kit: the MoD speaks

*Extracts from a report presented by Mr. Geoffrey Pattie, Parliamentary Under-Secretary of State for Defence Procurement, at the MoD on August 5.*

ANY commentary must be in the nature of an informed first impression at this stage. There remains a need for cross-checking of incidents from participants, many of whom are in the process of returning from the Falklands; there must be analysis of tape readout; there must be detailed scientific operational analysis. All this work is in hand but is not yet available. When it is, it will be used to substantiate and elaborate the initial findings.

Caution is particularly necessary in the case of anti-air warfare. There is a need to establish exactly which system was responsible for destroying each target. There may be an element of initial duplication of claims when every weapon within range was firing at incoming aircraft. This will need sorting out in further analysis, as will the limitations on enemy effectiveness imposed by the capabilities of our own systems.

**Sustained air operations.** *Hermes* and *Invincible* together provided the extensive facilities required to mount, support and sustain fixed wing air operations from within the Task Force. Up to 28 Royal Navy Sea Harriers and 14 RAF Harrier GR3s were deployed to the South Atlantic. Helicopters operated round the clock in all weathers and from all types of ship including ships taken up from trade. Very high availability was achieved (for example more than 90 per cent in the case of one Sea King squadron for which data is available).

**Harrier.** This showed itself to be a true multi-role aircraft. The outstanding capabilities, versatility and performance of the Sea Harrier led to a remarkable success in air combat and an easy transition to anti-ship and ground attack roles. The low loss rate, together with a very high serviceability rate, permitted continuous high intensity flying throughout the operation. Only 1 per cent of planned Sea Harrier sorties were not achieved through unserviceability. The Harrier GR3 successfully deployed at sea, operating in its primary ground attack role and demonstrating its ability to defend itself in air-to-air combat. At the latest count, some 1,500 Sea Harrier sorties and some 150 Harrier GR3 sorties were flown. No Harriers of either type were lost in air-to-air combat and only five to ground fire.

**Anti-air warfare.** Given that the task force faced 120 Argentine fast jet aircraft with initially only 22 Sea Harriers to complement the ships' own air defence systems, the losses sustained, particu-



*Not for the Falklands: Inside Nimrod AEW Mk3 mission avionics prototype*

larly in the highly vulnerable phase of amphibious operations, were inevitable. The lack of airborne early warning (AEW) was a further disadvantage. Nevertheless, the Argentine Air Force was successfully dealt with. One hundred and nine aircraft of all types (including 31 A-4 Skyhawk and 26 Mirage) are currently estimated to have been destroyed from all causes, including destroyed or found destroyed on the ground, evasion, "own goal" etc. Preliminary claims for the main AA systems are: air-to-air combat (mainly Sea Harrier/Sidewinder) 27; Sea Wolf five; Sea Dart eight; Sea Cat six; Blowpipe eight; and Rapier 13. (Rapier was of course only in action after the landings at San Carlos on May 21.) These claims are being further assessed to get the attributions right. On some days, Argentine air losses were as many as two thirds of the aircraft dispatched.

**Land mobility.** Since land operations were conducted on light scales and mainly on foot, the amount of equipment deployed on land was relatively small. Movement of guns and heavy equipment depended critically on the use of helicopters and the use of wheeled vehicles was very restricted. Of particular note, however, was the excellent cross-country mobility and high reliability of Scorpion and Scimitar, emphasising the value of tracked vehicles in such terrain conditions. These vehicles covered an average of 350 miles each.

**Artillery support.** Artillery support had an especially important role to play in the success of land operations. Some of the 105mm Light Guns deployed fired at a rate of 500 rounds in 24 hours with no degradation in general performance. Naval gun fire support (NGS) also played its part, especially in interdiction. Some 8,000 rounds were fired from naval guns in support of ground operations and preliminary assessments indicate that this contributed significantly to the collapse of Argentine morale.

**Countering Exocet.** Royal Navy defensive systems both active and passive have been optimised against the capabilities of the Russians, who do not possess an air-launched sea-skimming missile of the Exocet type. In response to this new threat, however, electronic countermeasures, including chaff, were deployed to provide an effective counter to air-launched Exocet. Apart from the *Atlantic Conveyor* incident, only one of the five air-launched Exocets thought to have been fired penetrated our defences successfully.

**Communications.** The success of command, control and communications (C<sup>3</sup>) equipment was one of the outstanding features, despite the fact that it would be hard to find a part of the world capable of providing a more demanding test.

**Logistic support.** The lines of communication stretched 8,000 miles from the UK base, an average of 21 days sailing time. The logistic problems were dealt with by the following:

(a). The successful use of ships taken up from trade (STUFT). Over 50 ships were taken up from trade — 673,000 gross tons — from 33 companies. These ships, modified in a matter of days to be capable of refuelling at sea and many to take helicopters, carried over 100,000 tons of freight, 9,000 personnel and 95 assorted aircraft.

(b). The only airfield that could be used was at Ascension Island, 3,500 miles from the Falklands. This permitted shipping time to be saved by flying personnel and freight there for loading on to ships bound for the Falklands. It also gave us a limited air drop capability for emergency resupply. By the end of the operation some 5,600 personnel and 7,500 short tons of stores had been flown to Ascension using over 17,000 flying hours of RAF C130s and VC10s.

(c). Air-to-air refuelling played an important role in offensive air operations and logistic support. During the campaign, rapid developments were made in our techniques and capability and many aircraft, including Nimrod maritime patrol aircraft and C130s, were converted for air-to-air refuelling. Thirty-five Hercules re-supply drops for the task force were undertaken with an 8,000-mile round trip lasting over 25 hours. Nimrods flew about 150 sorties from Ascension Island, some of up to 19 hours duration. Harrier GR3s were deployed direct from the UK to Ascension Island and from there direct to the deck of *HMS Hermes* in two nine-hour legs. Vulcan bombers attacking military targets in the Falkland Islands from Ascension were refuelled on both outbound and inward legs. ■





ESCUELA DE GUERRA NAVAL

TACTICA

NEW LESSONS FROM COMBAT

(Aviation Week JUL. 19,82)







## New Lessons From Combat

Details are sifting out from both the British retaking of the Falkland Islands and the Israeli thrust into Lebanon, enough to draw some lessons from the crucible of the battlefield. Lebanon makes one technical development clear: the era of avionic battle management and automated combat is at hand.

Israel in particular demonstrated this capability in the suppression of Syrian mobile surface-to-air missiles in the Bekaa Valley of Lebanon and its sweep of Syrian MiG-21 and MiG-23 fighter opposition with no losses of Israeli manned aircraft. Both utilized remotely piloted vehicles, either for real-time reconnaissance of Syrian fighter bases or missile sites or as decoys to force the Syrians to turn on missile site radars long enough for the new Israeli Wolf anti-radiation missile to home on them.

American as well as Soviet policymakers have much in that operation to chew over. U.S. research and development dollars have gone into remotely piloted vehicles and the U.S. used the Teledyne Ryan Firebee series for reconnaissance in Southeast Asia during the Vietnam War. Although several other companies, including Northrop, Lockheed Missiles & Space and E-Systems, have developed remotely piloted vehicles for reconnaissance, countermeasures or harassment, budgeting has been limited for this kind of capability. The Israeli success in Lebanon is a wake-up call for the U.S.

What undoubtedly generated a flock of unscheduled meetings in the Soviet defense bureaucracy was the poor performance of Soviet equipment against the Israelis. While Soviet export hardware to the Middle East usually lacks first line avionics, the loss ratio in the Lebanese conflict was worse than it had been in earlier Middle East wars.

Two related combat lessons emerge:

- Airborne early warning is vital in future combat. The Israelis used their Grumman E-2C aircraft with telling effect to acquire Syrian fighters as they left the runways and, with passive detection, to identify missile sites. Britain sorely missed an airborne early warning capability in the Falklands, where its ships were attacked by aircraft or missiles with the advantage of surprise. One of the British Defense Ministry's first steps after the Falklands conflict ended was to issue a requirement of a helicopter airborne early warning radar system that can operate off its VTOL aircraft carriers.

- Integrated avionics capability with near real-time tactical reconnaissance is remarkably effective, something the Israelis demonstrated with E-2C and remotely piloted vehicle detection and imagery. Boeing 707 airborne countermeasures and first line fighters under effective command and control. Britain's lack of such real-time or near real-time tactical reconnaissance in the Falklands led to the false conclusion that Vulcan bomber strikes had knocked out the airfield at Port Stanley early in the fighting when, in fact, it was usable by Argentina almost until the end.

Logistics has not been a key element in the Lebanese conflict, with short supply lines, but were domi-

nant in the Falklands episode. Distances were comparable to the island-hopping Pacific battleground in World War 2, yet the British had nothing like the carrier and support battle groups that fought that campaign. At the same time, the Argentines were fighting at the combat radius limit of their attack aircraft from their mainland, restricting their ability to stay on the scene and fight. Logistics guideposts from the Falklands include:

- Some transport is better than nothing. Britain chartered Short Brothers Belfast heavy lift aircraft and pressed its medium-range Lockheed C-130s into long-range operations as part of its buildup at Ascension Island. The Falklands landing itself was supported by chartered commercial cargo and passenger ships. It worked, though narrowly.

- Inflight refueling is a paramount capability. Ten Victor tankers were required to support one Vulcan mission from Ascension to the Falklands and back, drastically limiting the scope of Vulcan raids. The Falklands logistics experience is a powerful argument to back U.S. Air Force programs to reengine the Boeing KC-135 and to expand its tanker fleet with the McDonnell Douglas KC-10 cargo/tanker aircraft.

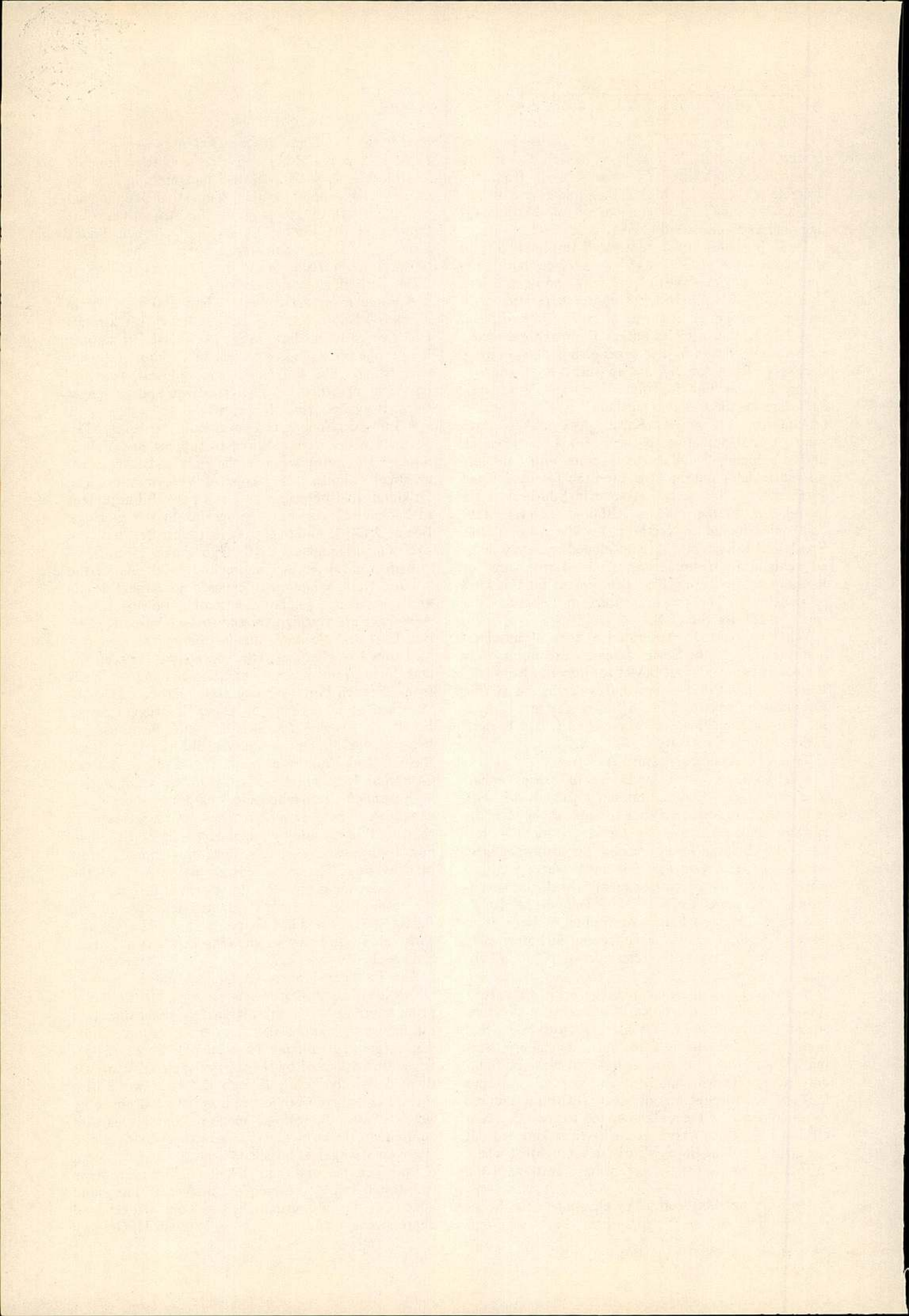
British naval forces lying off the Falklands for the landing were dangerously exposed to Argentine air and missile attacks, but the combination of British Aerospace Harrier fighters and surface-based Rapier, Sea Dart and Seawolf missiles along with countermeasures like chaff was effective enough to keep the task force from decimation. Ship damage or losses from French-built Aerospatiale Exocet missiles launched at long range by Dassault-Breguet Super Etendards showed the British could have used a longer-range air defense missile like the U.S. Raytheon Hawk—and the value of the U.S. Navy's Grumman F-14/Hughes Phoenix missile combination with standoff, long-range and look-down, shoot-down capability. The Harrier surprised its U.S. skeptics, showing that it could fight and survive in real combat, and confirmed the effectiveness of vectored thrust maneuvering. The latest operational version of the U.S. Sidewinder missile with improved target tracking, the all aspect AIM-9L, was effective in the Falklands, as it was in Lebanon with the Israelis, and with the U.S. Navy in shooting down two Libyan Sukhoi Su-22s last year.

The Falklands campaign did not prove anything conclusively about ships versus missiles. Neither did it prove anything about aircraft carriers, other than that the British dismantled their carrier forces too hastily. The Argentines did not have enough Exocet/Super Etendards delivered by the start of the conflict to use them decisively. While Exocets did sink two British ships, four others were lost to iron bombs dropped by obsolete aircraft without modern countermeasures equipment. It was no test of large-carrier battle group survivability against missile swarms.

Both Lebanon and the Falklands did reiterate some well-tested military principles. Intense training and good logistics are essential, and bold strokes and aggressiveness win.

—William H. Gregory







ESCUELA DE GUERRA NAVAL

TACTICA



LESSONS OF THE AIR WAR OVER THE FALKLANDS

(Maritime Defence AGO. 82)







# Lessons of the air war over the Falklands

by Roy Braybrook

At the time that these words were written, the official British analysis of the Falklands operations had not been completed, and there was no indication to be had of whether, when, and in what form the final report would be released for publication. Nonetheless, much of the information that provided the basis for the study is freely available, and some tentative conclusions may be drawn regarding such basic matters as the value of maritime air power, and the shortcomings and future requirements in respect of certain equipment categories.

With scope for an estimated 150 comparable defence scenarios in different parts of the world (the vast majority of which are fortunately not the immediate concern of the UK), a preliminary assessment of the air war is evidently well justified, although (to quote the MoD Interim Commentary on Equipment Matters) 'any commentary must be in the nature of an informed first impression at this stage'.

The Falklands conflict provided the finest possible proof of the need for sea-based air power in the case of a nation with distant overseas defence commitments, just as it proved the limitations of land-based air

power. Without a reasonable degree of control of the air over the task force, there could have been no direct military means to regain the islands; without the Sea Harrier (currently the only naval fighter that Britain can afford — or indeed operate) the Falklands would now be Las Malvinas.

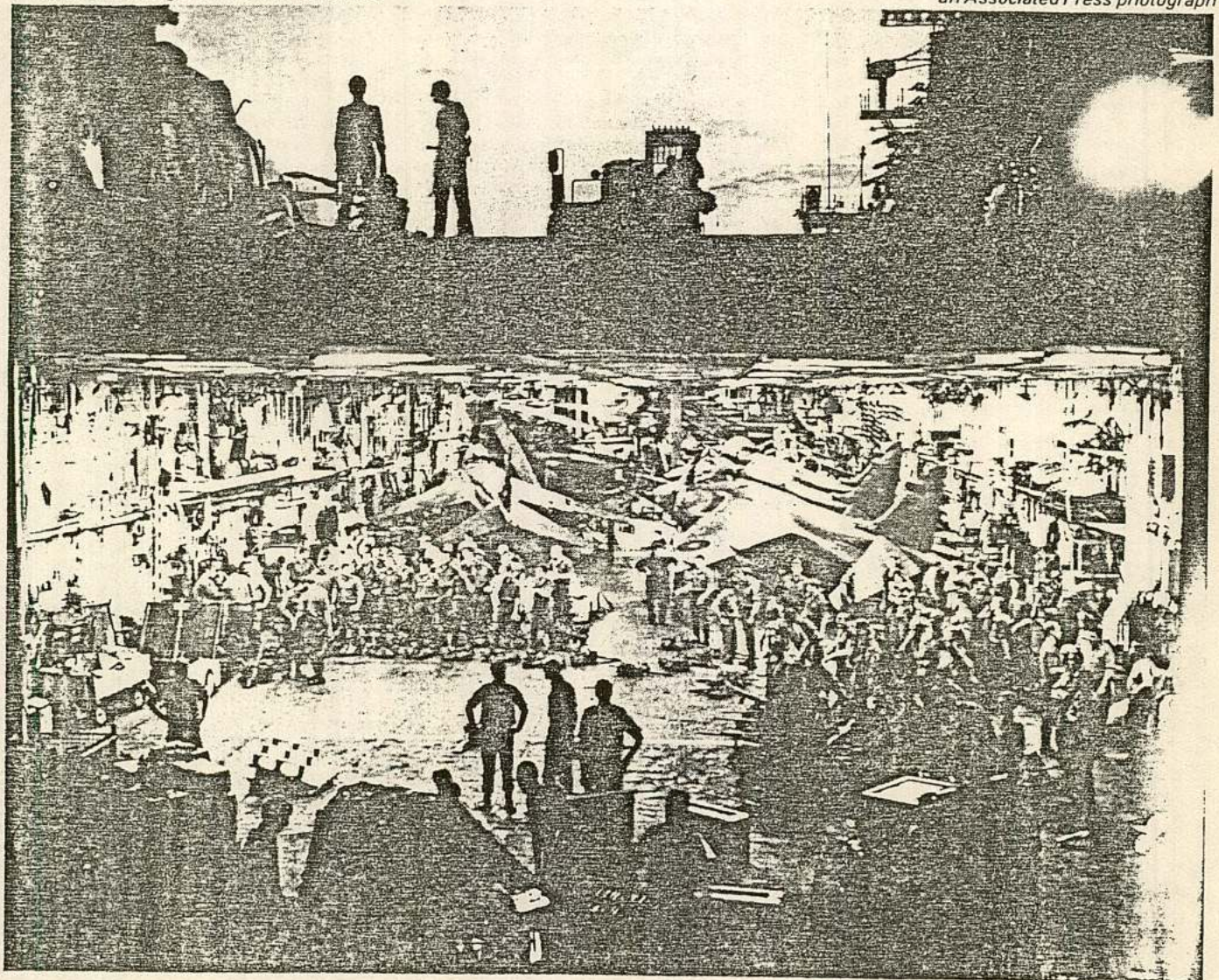
Sea-borne air defence aircraft were thus arguably the most important single element in the UK force-mix, but the fighting also brought out the value of other maritime air equipment. The Argentine Navy Super Etendard with its AM.39 Exocet sea-skimming, active radar homing missiles proved capable of destroying a modern

warship with a single strike, although the example of HMS *Sheffield* has possibly created an 'Exocet Panic' of unjustified proportions. In reality such missiles can only be fired blind over open water and against a large radar return, in the hope that this will prove to be a worthwhile target. Likewise, relatively straight-forward improvements in chaff operation, jamming, and ship armament may significantly reduce Exocet's kill probability.

Nonetheless, the point is well made that maritime strike aircraft (even without the nuclear weapon of the Sea Harrier) can still constitute a powerful force, and that navies neglect defence against the sea skimmer at their peril.

Thirdly, the conflict bore out the value of naval rotary wing aircraft, although the emphasis on this occasion was more on landing men and moving equipment, rather than on ASW. The Lynx/Sea Skua combination demonstrated the

A flight deck/hangar view of HMS Hermes



an Associated Press photograph



efficiency of the missile-armed helicopter in attacking smaller vessels, while the Sea King (which was used *inter alia* as a decoy for Exocet) appears to form the basis for a worthwhile airborne early warning radar platform. Indeed early outittings with Seasearcher radar have flown successful trials and are embarked in *Illustrious* as reported elsewhere in this issue.

Land-based air power had obvious strengths when it could be applied over a short radius of action, as in the case of Argentine aircraft generating relatively high sortie rates over a radius of 400-500nm. Conversely, the problems associated with operating over a radius of 2 750nm from Ascension Island were evidenced by very low sortie rates, protracted sortie duration which must have had an adverse effect on crew efficiency, and immense flight-refuelling requirements. Nimrods (some equipped with Harpoon missiles for anti-shipping strike and AIM-9 Sidewinders for self-defence) flew maritime patrol sorties of up to 19hrs. Each Vulcan strike mission involved a flight of 15hrs (probably with two hour briefing and de-briefing sessions adding to crew fatigue), and reportedly involved up to 10 tanker sorties, some of the tankers themselves being refuelled en-route to achieve the necessary radius. In-flight refuelling is still not a 100% operation: six contacts reportedly failed out of approximately 600 hook-ups, the consequences involving one Vulcan landing in Brazil and one Harrier in Africa. It might be added that transport aircraft flew even longer missions than those mentioned above: the C-130 Hercules that carried urgent supplies to air-drop to the task force were flying sorties of 25-28hrs!

Looking at equipment lessons in more detail, helicopter operations appear to have produced few surprises, and accidents were broadly in line with the intensive flying rates prevalent throughout the conflict. The Royal Marines' Gazelle was quickly fitted

with a flexibly-mounted machine gun to improve survivability in reconnaissance and casualty evacuation, but proved highly vulnerable to small arms fire, two being lost at the start of the San Carlos landing. All helicopters were easy targets for the Argentine Pucará turboprop close support aircraft, due to its heavy gun armament and large speed range, a lesson that probably reads across to the threat to helicopters from Soviet Mi-24 Hind gunships in other scenarios.

Reports indicate that Sea Skua exceeded its design requirements. Seven were fired and all hit, although the weapon had not even been declared operational when the task force sailed. On May 2, in the middle of a storm on an 'inky-black' night, a salvo of two sank the patrol boat *Somellera*, in reality an 800-ton, steel-built ocean-going tug with a low silhouette. A second salvo badly damaged the *Sobral*, and reports suggest that in a less mountainous sea state (giving a lower-flying missile) that ship too might well have been sunk.

The Westland Lynx also took part in the operation against the submarine *Santa Fe* off South Georgia on May 24, the boat first being sighted and depth-charged by a Wessex HAS.3 from HMS *Antrim*, then attacked on the surface by a Lynx from HMS *Brilliant* and Wasps from HMS *Plymouth* and *Endurance*. The submarine was badly damaged, and was beached and abandoned by her crew.

The Sea King demonstrated outstanding reliability, despite flying up to 10hrs in a day. One squadron achieved an availability of over 90%. The type was used in a number of roles, including the landing of SAS parties and the decoying of Exocet missiles. Details of these operations have still not been made public: for example it is not yet clear from which ship the Sea King that landed near Punta Arenas in Chile was operating, nor whether the Exocet-decoy role involved the use of chaff.

Of the various helicopter losses, perhaps

the most serious accident was that of the Sea King on May 19, with the loss of 21 men of the SAS. It is now being stated unofficially that this ditching was due to an albatross striking the tail rotor. Later reports indicate that a requirement has been issued for an airborne early warning radar to be carried by some Sea Kings, and that three such aircraft have already been given an interim AEW fit.

Although naval helicopters performed well, the great success story of the air war over the Falklands was undoubtedly that of the Sea Harrier. Not only did the air cover it provided make British maritime operations possible, despite the distance from friendly land bases, but also the Sea Harrier proved itself capable of the most remarkable flexibility, both in basing and operational role.

The main problem was that the RN did not have sufficient Sea Harriers for the tasks in hand: of 34 ordered, 32 were available to take part in the conflict (one having crashed long before, and one not being completed in time to participate), and 28 were sent to the South Atlantic, leaving only four in the UK for pilot training and trials installations. Vastly outnumbered by Argentine combat aircraft, the Sea Harrier was later augmented by the RAF Harrier GR3 (a total of 14 aircraft), which was hastily modified to make it more suitable for carrier operations. However, only the Sea Harrier had airborne intercept radar, hence the GR3 was employed solely in ground attack duties: there was no true substitute for the dedicated naval variant.

The flexibility of these V/STOL aircraft was illustrated both by their deployment to the Falklands and by their methods of operation. The initial deployment consisted of 12 Sea Harriers (No 800 Sqn and part of No 899, the headquarters squadron) on *Hermes*, and eight Sea Harriers (No 801 Sqn and part of No 899) on *Invincible*. For comparison, the normal ship's complement is five of these aircraft. *Hermes* was later to peak at 21 fixed-wing aircraft.

The first reinforcement took the form of eight Sea Harriers (No 809 Sqn, now with *Illustrious*) and six GR3s, which were flown to Ascension Island (approximately 3 700nm) with in-flight refuelling, and embarked on the modified container ship *Atlantic Conveyor*. This ship, which also carried a number of Chinook and Wessex helicopters, had containers three deep along either side of the deck (which formed an uncovered hangar for the aircraft), and a VTOL operating pad 50 x 80ft at the forward end. On arriving in the vicinity of the task force, the 14 fixed-wing aircraft were flown off to land on the carriers. A second reinforcement flight of eight GR3s was flown to Ascension, and then directly to the carriers (approximately 2 750nm), again with flight refuelling.

The RAF Harriers served to relieve the Sea Harriers of part of the ground attack task, and following the San Carlos landing were based ashore in that area, using a grass airstrip and a mix of RAF and RN maintenance manpower. Further evidence of the aircraft's flexibility was provided by Sea Harriers on air defence missions

Major air elements of the British naval task force in the S Atlantic







refuelling on the helicopter pads of the assault ships *Fearless* and *Intrepid*, as well as on the grass strip at San Carlos.

In view of the fact that the Sea Harrier was intended primarily to intercept single Russian maritime patrol aircraft flying at medium altitudes, and that its bombing computer was developed to give accurate delivery against large ships, using radar ranging, the tasks posed by the Falklands conflict called for a high degree of operational versatility. The air threat consisted of large numbers (up to 60 or 70 in a single raid) of small, low flying aircraft. The principal targets for bombing were on the ground (notably Port Stanley airfield), against which radar ranging was not feasible. Faced with these new challenges, the Sea Harrier performed outstandingly well.

The air threat was met by a combination of standing patrols of pairs of aircraft, giving approximately 40 minutes on station at a radius of 200nm, and deck-launched intercepts, with the pilots sitting at readiness in the cockpits, to be airborne in less than five minutes. Although some incoming Argentine aircraft were detected by the Sea Harrier's Ferranti Blue Fox radar (which also proved highly useful in finding the carrier, and the Harriers ferrying from Ascension), the majority of targets were detected visually and destroyed with AIM-9L Sidewinders in tail-chase attacks. Many Argentine aircraft jettisoned their bombs and turned away on being intercepted, but there were some dogfights at extremely low level, which the Sea Harriers invariably won.

Preliminary MoD figures refer to 1 500 Sea Harrier sorties in the Total Exclusion Zone, but informal statements give a figure of 1 893 sorties (including 282 at night) and 2 514 flying hours. The GR3 entered the picture later, and performed approximately 150 sorties. Individual Sea Harriers flew up to 55hrs in a month, and up to six sorties in a day. Pilots flew up to four sorties a day, and spent up to 10hrs per day in the cockpit.

No Sea Harrier or GR3 was lost in air combat, but the Sea Harrier accounted for 27 Argentine aircraft in the air, of which 24 were destroyed by the AIM-9L (a total of 27 were launched) and three by 30mm Aden cannon fire. To put these figures in perspective, surface-air missiles accounted for a further 40 Argentine aircraft, and approximately seven were destroyed in the air by other means.

Six Sea Harriers and three GR3s were lost, with a total of four pilots killed. All these GR3s and two Sea Harriers were shot down by ground fire (one by Argentine Blowpipe, possibly one by Roland, and the rest by automatic weapons). Two Sea Harriers collided or flew into the sea, one slid off the deck, and one hit the sea directly after launch (the only accident associated with V/STOL operation).

The Sea Harrier was praised for its reliability: although operating two or three times their normal complement of fixed-wing aircraft, each ship's maintenance crew was increased only from 95 to 110-120 men. Nonetheless, an availability of



*Above, a Lynx carrying Sea Skua which is shown in greater detail, right*



80% was obtained, and only 1% of planned sorties was not achieved through unserviceability. Its ability to recover in bad weather was also a major feature of operations: the aircraft was operated down to 1/8nm visibility and a cloud ceiling of 100ft, figures well below CA Release limits, and well outside the capability of the previous generation of conventional aircraft. No aircraft was lost in recovery, although one Sea Harrier landed with an outrigger off the

deck-edge, and was promptly man-handled aboard.

In conclusion, the operation taught many lessons for the future, including the need for larger helicopters for the Royal Marines, AEW and tanker capabilities in the Sea King replacement, and bigger drop tanks, more air-air missiles, a pulse-doppler radar, and anti-radar and stand-off missiles for the Sea Harrier. Some (at least) of these lessons are already being acted on.

### Harrier AV-8B fatigue-tested to 60 years

Results of fatigue testing show that as much as sixty years of rigorous flying will not wear out AV-8B Harrier II attack aircraft.

In a specially equipped laboratory, engineers stressed and strained an AV-8B airframe the equivalent of 12 000 flight hours. Each laboratory flight hour equals two actual flight hours, bringing the total average hours for the test AV-8B to 24 000 hours, or about 60 years of flying.

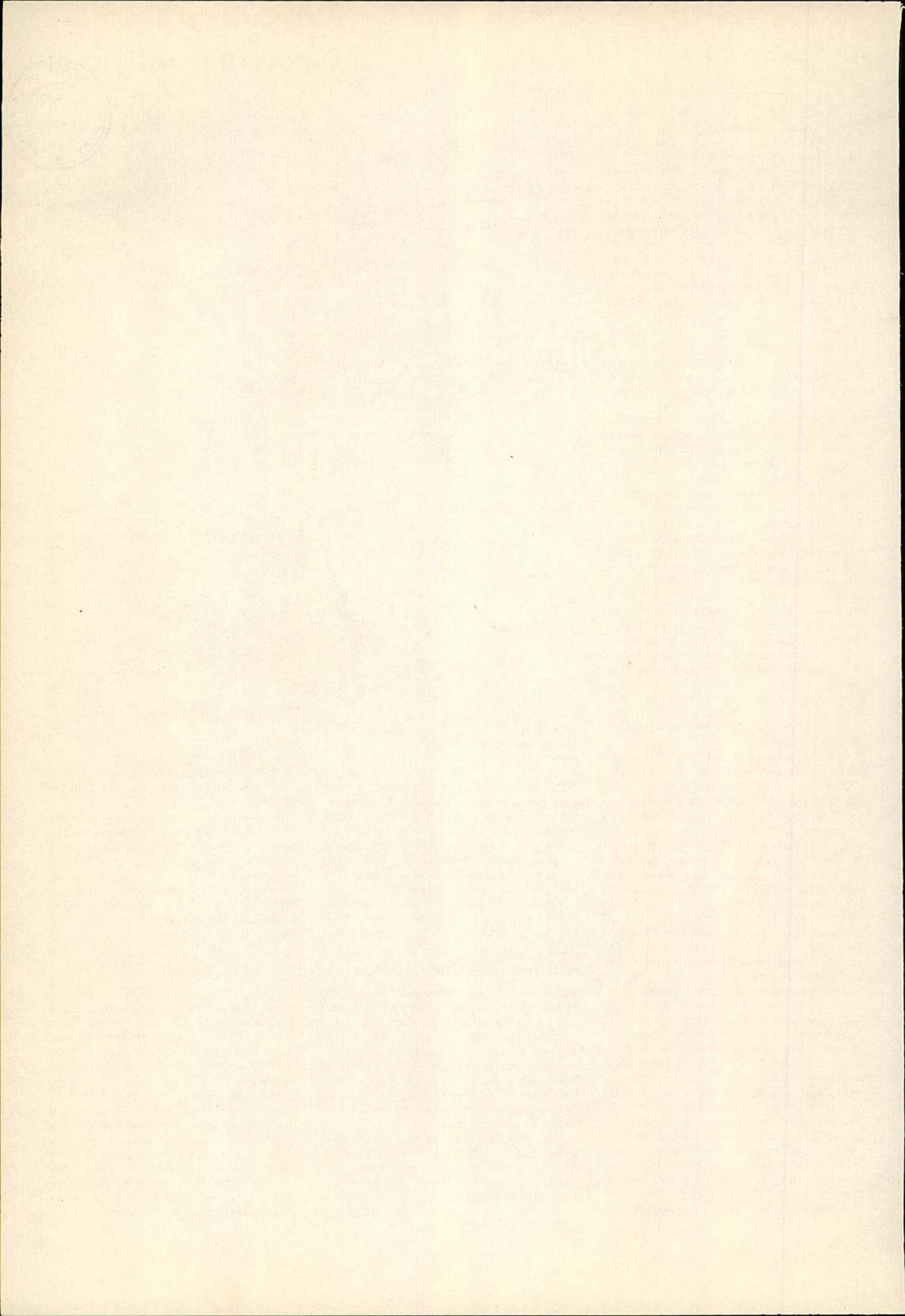
The fatigue test was successfully concluded by McDonnell Douglas two months ahead of schedule, meeting all design specifications required by Naval Air Systems Command.

A major contributor to the airframe's

longevity is graphite-epoxy composite material used in the wing, forward fuselage, horizontal stabilator, and rudder — by building 26% of the AV-8B airframe from composite material, engineers saved 500lb (227kg) or 10% from the Harrier II's structure.

This non-metallic material is made from cloth-like graphite fibres bonded with epoxy glue and cured at high temperatures and pressures. It is lighter yet stronger than conventional metals and has properties that resist fatigue. It has also been found that composite material gives extra freedom in design to aerodynamic structures, especially those with complex shapes.







ESCUELA DE GUERRA NAVAL

TACTICA



THE FALKLANDS OPERATION

(Nato's Fifteen Nations JUN.JUL.82)







# THE FALKLANDS OPERATION

## PROBLEMS, CONSIDERATIONS, LESSONS

*Cet animal est très méchant, quand on l'attaque il se défend*



Vice-Admiral Sir Ian McGeoch, KCB, DSO, DSC, M. Phil, is Editorial Director of the naval magazine *Naval Forces* and writes for *The Times*, London, and other journals. He is co-author of the well-known book "The Third World War". He served in the Royal Navy from 1931 to 1970.

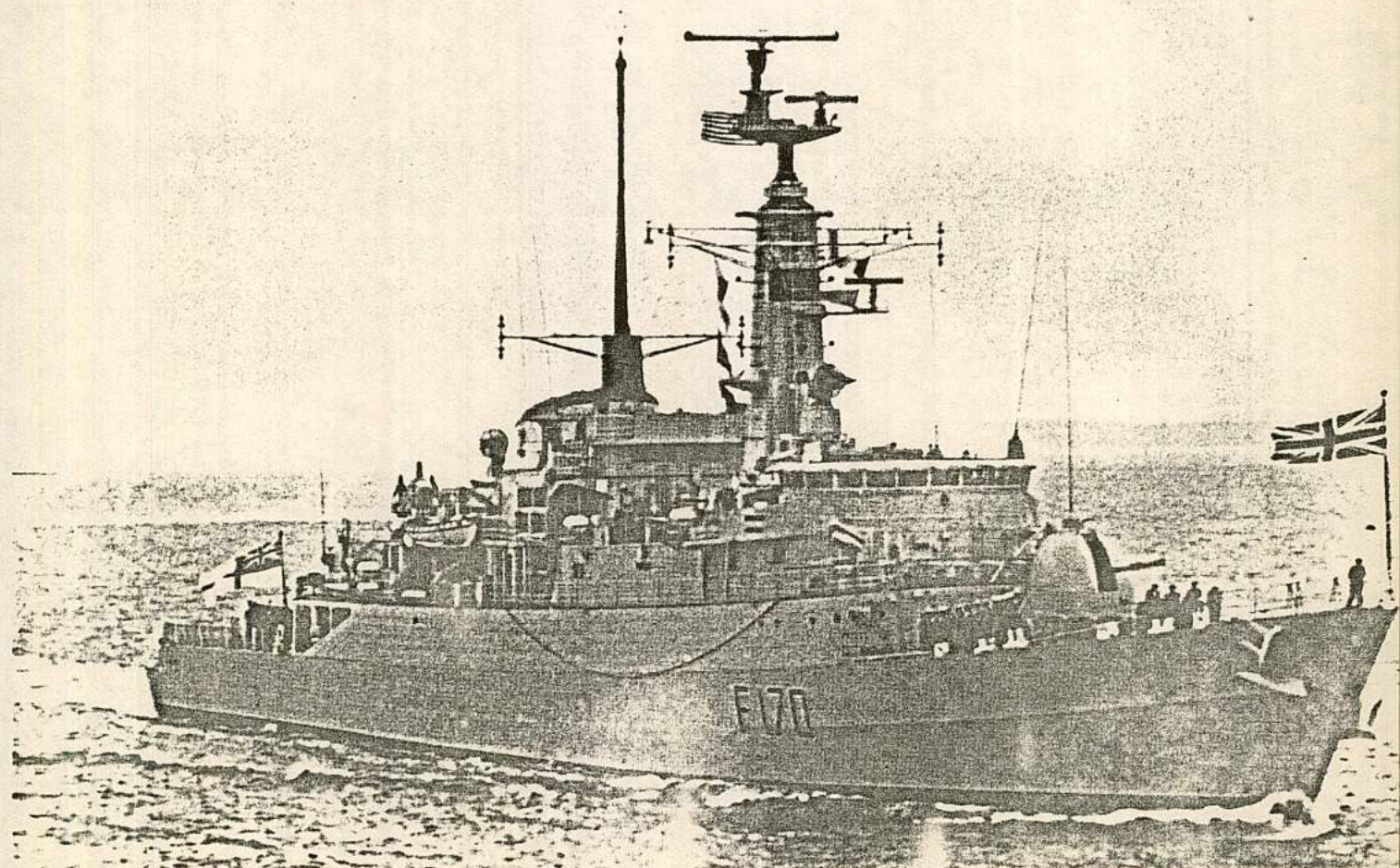
Permanent lessons of war cannot be expected to be conclusive while the battle is still raging but some aspects must be absorbed immediately in order to reduce losses and achieve the aim quickly. Vice-Admiral Sir Ian McGeoch, with his deep experience as a submariner, examines the huge problems with which the planners were faced when they had to advise on, and later to plan and execute the operation.

The decision of the British Government to send an expeditionary force to reoccupy the Falkland Islands has resulted in a series of military operations which merit the closest study. So-

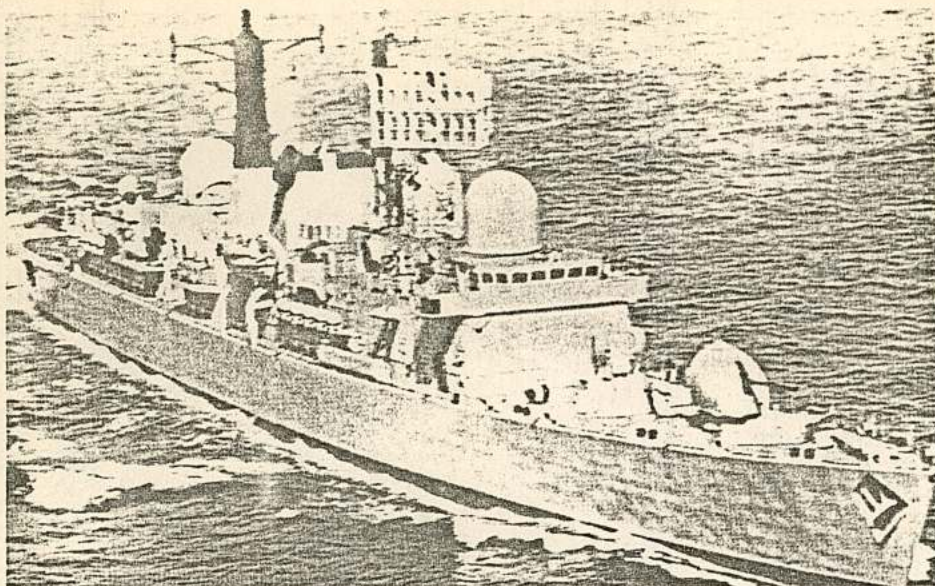
called "conventional" armed forces, equipped with weapons of the latest types, air, sea and land, have been utilised in support of specific political objectives, on the one hand to seize and attempt to hold, and

on the other to regain, an area of British sovereign territory about the size of Wales. Geography has been the main factor in determining the character of the conflict — the strategy, the strength and composition

*The naval support force came under effective air attack and suffered losses. One of these was the proud frigate HMS Antelope which went down after repeated efforts to save her failed in high seas.*



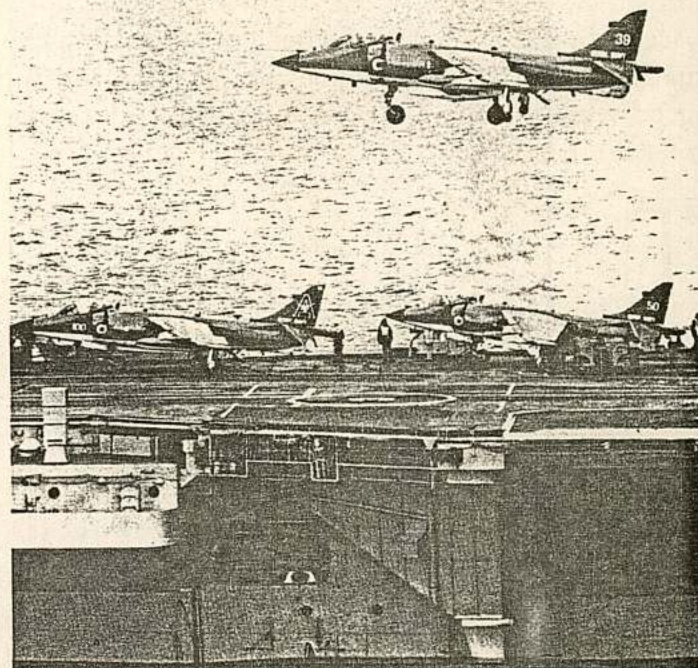




The Argentine Navy ship Hercules (above) and Santissima Trinidad are sister ships of the modern British destroyer HMS Sheffield which fell victim to a skilful Argentinian air attack. One of the most important elements missing from the British force is Airborne Early Warning.



The aged Argentine carrier Veinticinco de Mayo has modern aircraft and helicopters, such as these Sea Kings used in the operations.



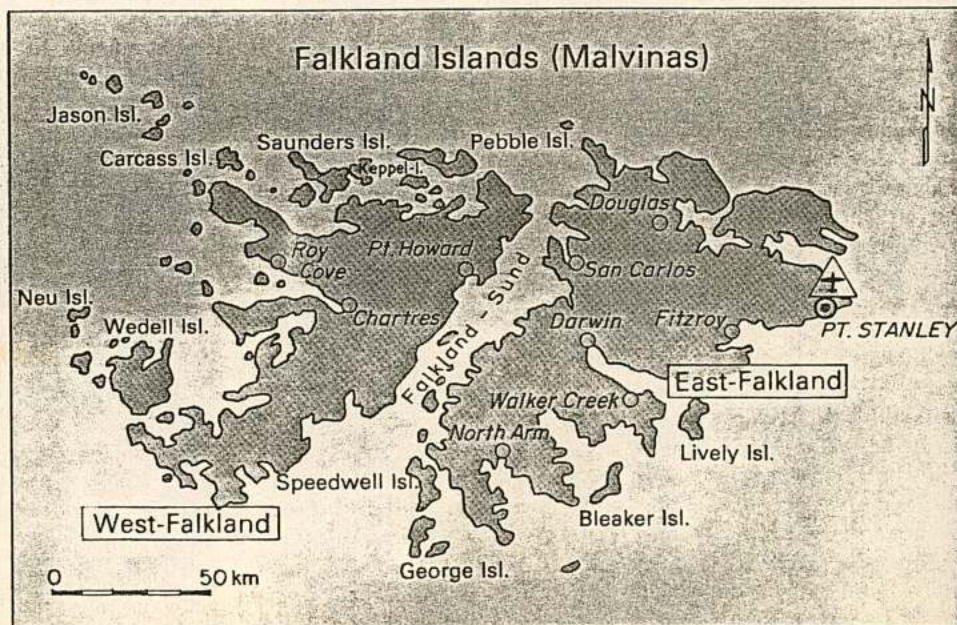
The two Harrier carriers of the British naval force carry a total of 20 Sea Harriers, capable of fighter, reconnaissance and strike roles, which have already shown their superb value.

of the forces involved, and their tactics. The Falkland Islands are some 300 miles from the nearest point in Argentina, and 8,000 miles from the United Kingdom; as a staging post Britain could use Ascension Island, 3,500 miles from the Falklands; and, once it could be retaken, South Georgia, 800 miles to the south east, offered an advanced operational base out of air strike range from Argentina. Operations are still in progress and all that may usefully be done now is to set the scene of the first major, long-range, amphibious campaign since the Korean War in the early 1950s.

At the time of writing some 8,000 highly trained British troops, Royal Marines, Paratroopers, Guards and Gurkhas are converging upon the area around Port Stanley, where the main body of the Argentine garrison is believed to be emplaced, numbering at least 7,000. The British assault force, with a strong naval

escort and covering force, sailed from the United Kingdom just three days after President Galtieri announced, on 2 April 1982, that Argentine forces had landed in the Falklands "to reestablish Argentine sovereignty". Seven weeks after its departure, the British force was landed, with virtually no opposition, near the settlements of San Carlos and Port San Carlos, on East Falkland, some sixty miles west of Port Stanley. There seems to have been no attempt by the Argentine garrison to seal off the British beachheads, although the naval support force came under effective, if sporadic, air attack from Argentina and suffered losses.

Five days after the initial landings, having consolidated the beachheads, the British forces advanced. It now seems highly probable that Britain's limited military aim





will be achieved, and the Falkland Islands reoccupied with sufficient force to ensure that British administration can be reestablished and maintained for as long as required.

The British aversion, in modern times, to the use of armed force in order to settle international disputes may well have been interpreted by the ruling Junta in the Argentine as inability to respond with force, if force were to be used against her. Successive British governments in recent times, it must be admitted, had been seeking to negotiate with Argentina some means, acceptable to the Falkland Islanders, of accommodating her 150 year-old claim to sovereignty over the Falklands. The Islands had long since lost their strategic importance as a coaling station and base from which to control the sea route round Cape Horn. Economically they were deemed to be of only marginal value. Their possible use as a point of support for the exploitation of the natural resources of Antarctica could not be held to justify any expenditure on their defence.

The only mention of the Falkland Islands in the British Government's *Statement on the Defence Estimates, 1981*, was to "building projects", being carried out, presumably, by the 79 Royal Marines who were stationed there as a guard. As if to underline Britain's diminished interest in Antarctica as a whole, and in the Falkland Islands in particular, it was made known in 1981 that the ice-patrol ship, HMS *Endurance*, was shortly to be withdrawn without replacement.

What set the alarm bells ringing in Whitehall was the unauthorised landing in South Georgia, during the third week of March, 1982, of a group of Argentinians who claimed to be "scrap metal merchants". Rumour was rife in Buenos Aires that the invasion of the Falklands was imminent, but confirmation of this could not be obtained. On several occasions previously what had appeared to be an invasion had turned out to be merely an exercise. In any case, with no naval or air forces (apart from HMS *Endurance*) within 5,000 miles or so, no fixed defences in the Islands, and only a token garrison, no immediate defence could be provided. If the Argentinians were indeed to seize the Falklands and hold them with a strong force, what would be the prospects of retaking them by military action?

## THE STRATEGY

The military problem thus set to Britain's Chiefs of Staff was how to assemble, within a few days, the forces needed to overwhelm the Argentine garrison in the Falklands, believed to be at least 9,000 strong; to convey the force safely and without delay to the South Atlantic; to carry out a successful landing against stiff opposition, without the benefit of strategic surprise; and to sustain and reinforce the

assault force as necessary until the reoccupation of the Islands had been achieved. In order to minimise casualties on both sides, and to avoid as far as possible injuring the Falklanders themselves, it would be necessary to achieve tactical surprise, not only in the choice of assault area, but by the speed of exploitation of the landing. Given the difficult terrain, helicopters would be invaluable, as well as sea transport, for rapid deployment.

All this would depend upon the air situation. How might this be assessed? Because Port Stanley airfield was not capable of operating modern high performance fighter aircraft, and the Falklands are too far from Argentinian air bases for fighter defence to be provided from there, the British naval force, with its two "Harrier carriers", together with good radar coverage and area defence SAM, ought to be able to achieve local air superiority over the Islands. But air attack from the Argentine shore bases, or flown from the aged carrier *Veinticinco de Mayo* must be expected, both upon the assault force and its covering force, and upon the landing force once ashore. The scale of such attacks, given the numbers of front line aircraft available to the Argentine Navy and Air Force, would be unlikely to be overwhelming, and attrition would, in all probability, progressively reduce the threat. With only four operational boats at most, two of which were nearly forty years old, the submarine threat to the British sea-borne force, and to its naval covering force and escort, could not be regarded as great, in the sense of a high intensity of submarine attack. But because the consequences of a single successful attack on an important unit, say one of the "Harrier carriers", or a troopship, could prejudice the success of the entire operation, the submarine threat would have to be taken very seriously.

The logistic support needed, so far from home bases and other sources of supply, would be formidable. The tankers and specialised replenishment ships of the Royal Fleet Auxiliary would have to be augmented by a considerable number of merchant ships taken up from trade. The use of Ascension Island, with its anchorage and large air base, would be indispensable. It might even enable the RAF's Nimrod long-range anti-submarine aircraft to be brought into play. These would be invaluable, not only to extend in area the fleet's anti-submarine defence, but for maritime reconnaissance. Unfortunately, the Nimrods would have to be equipped for inflight refuelling before they could carry out this task.

All in all, there appeared to be no strategic objection to despatching an amphibious expeditionary force to retake the Falklands, although the operations would make great demands upon the energy, skill and determination of the armed forces, their civilian support, and above all the unflinching resolve of the

Government. But there would be the most important element missing from the British force, the absence of which might jeopardise the outcome, namely, airborne early warning. There would be no means of providing this, as the "Harrier carriers" could not operate AEW aircraft, even if these could have been obtained, and the Nimrods now being modified for this task would not be ready until 1983. Hence it would be possible for Argentine strike aircraft, flying a low-high-low profile, to approach at sea level without being detected in sufficient time for effective counter measures to be taken. And so it proved.

## THE PLAN

"In war everything is simple, but the simplest things are difficult", Clausewitz pointed out. In addition to nationally reserved forces, Britain would make use of substantial elements of her ready armed forces allocated to both SACLANT and SACEUR. These would include the two "Harrier carriers", five destroyers, seven frigates and two or three nuclear-powered, general purpose fleet submarines (SSN), with two assault ships and five logistic landing ships to carry the first wave of the landing force, mechanised transport, armoured vehicles and artillery, part of SACLANT's UK-Netherlands Amphibious Force, and part of his Eastern Atlantic escort and ASW support forces. The follow up landing force would be transported in liners. To project and support an expeditionary force on this scale, at a distance of 8,000 miles, would be difficult, but fortunately the shipping and aircraft involved would not be open to enemy attack until within 500 miles or so of the objective.

It was evident that, faced with Britain's military response, Argentina would make all haste to strengthen her forces in the Falklands, using both sea and air transport. In order to counter this, and eventually cut off the Falklands garrison from all further supply, Britain decided to impose a Maritime Exclusion Zone, of 200 miles radius, centred on the Falklands, within which any Argentine warships or auxiliaries would be liable to attack. By 12 April it was possible to impose this sea blockade, owing to the speed with which fleet submarines could be deployed into the area, but not until 30 April was it feasible to extend it to include aircraft. By this time South Georgia had been reoccupied by British forces, and its harbours were available for the assembly of the landing force, before launching it against the Falklands. But the presence of an Argentine submarine, which fortunately was put out of action, was a reminder that ships at anchor are sitting targets, and require constant protection.

As the plan to retake the Falklands developed, simple in outline but highly



complex in detail, probably the most critical decisions concerned the organisation for command, communications and control. Historically, it has been the individual capacity of the naval and land force commanders, and the relationship between them, which has determined the success or failure of major combined operations — together with the completeness of the preparations for the expedition. Without radio communications tactical decisions had perforce to be left entirely to the men on the spot. Today, the temptation for the Commander-in-Chief at home, especially under political pressure, to interfere with the conduct of operations by his force commander must be great. That said, the responsibility which has devolved upon a junior and inexperienced flag officer, of commanding and controlling so large a force, deployed over so wide an area, combining so many and diverse functions, is unprecedented. Amongst the most valuable data to be acquired, in due course, from reports of the Falklands operation, will be the details of the command organisation, how control was achieved, and coordination effected. For example, the collection, assessment and dissemination of operational intelligence; the replenishment at sea of the warships; the avoidance of mutual interference between own forces, surface, submarine and air; the succour of damaged ships, and the rescue of

survivors from those stricken, the continual redispersion of the force in order to provide maximum anti air, anti-submarine, and gunfire support when and where needed; and, last but most important of all, the exercise of the leadership needed to heighten and sustain the morale of the fighting men in the warships and transports, and their civilian compatriots in the fleet auxiliaries and merchant ships. The adequacy and reliability of the radio communications, both strategic and tactical, needed to achieve all this will have been severely tested.

## AIR VERSUS SEA

Ever since the advent of aircraft capable of sinking surface warships of the most powerful type, naval strategy has been determined by the operational radius of such aircraft, and the location of their bases. During the Second World War it was not the German or the Japanese warships which inflicted upon the Royal Navy its most severe losses, but German shore-based aircraft, off Norway and in the Central Mediterranean, and Japanese shore-based aircraft, off Singapore. The underlying reason for this predominating, if geographically limited, influence of aircraft is the rapidity with which a concentrated air attack may be brought about, sufficient to saturate the defence. Aircraft

carried in ships, if present in sufficient numbers and of appropriate types, can certainly counter shore-based aircraft. But again, it is easier for the latter to be concentrated at short notice into an overwhelming force. Thus, even if ship-borne counter measures to air attack are improved and mounted in all ships — anti-missile missile or gun systems, decoys and jammers — the threat of attack from shore-based aircraft seems certain to continue as the most potent limiting factor on the operations of surface warships and the movements of merchantmen.

The nature of the submarine threat differs from that of the air threat in three main ways. First, it may exist wherever there is deep enough water for hostile submarines to lurk; secondly, surprise attack is probable — where sonar detection conditions are bad, highly probable; but thirdly, the tactical concentration of submerged submarines in attack remains hard to achieve, even when the weapons used are submerged-launch, air-flight missiles. Furthermore, once a submarine — and especially a diesel-electric or "conventional" one — has revealed its presence by attacking, its prospect of surviving the subsequent hunt and counter-attack are not good; the anti-submarine helicopter, with dipping sonar, can be most effective for destroying submarines.



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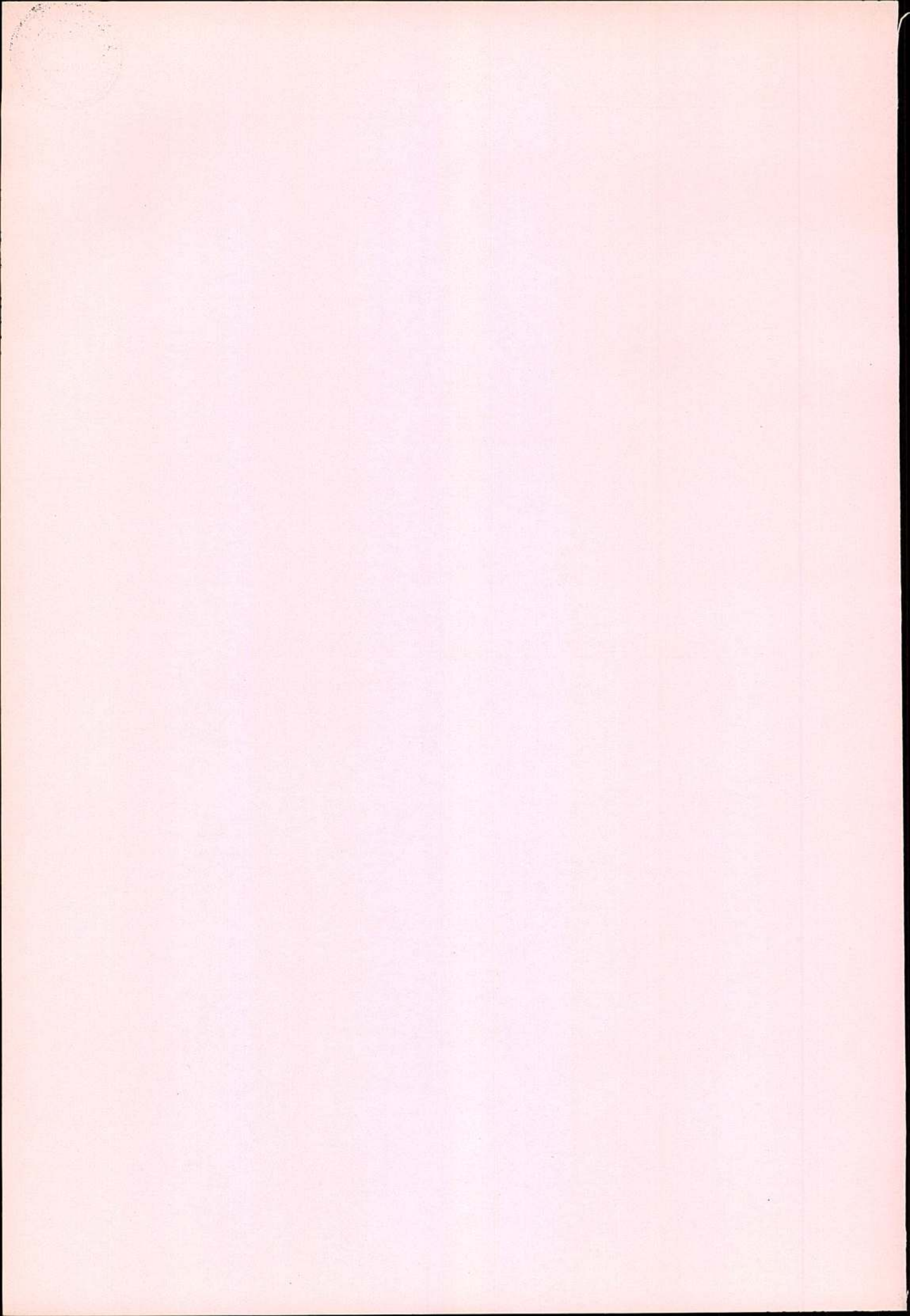
ESCUELA DE GUERRA NAVAL

TACTICA

BRITISH DEFENCE POLICY AFTER THE FALKLANDS

(Survival SP. 82)







# British Defence Policy after the Falklands

BRUCE GEORGE, MP AND MICHAEL COUGHLIN

The military conflict between Britain and Argentina that began on 2 April 1982 with Argentinian forces entering Port Stanley, and ended on 14 June 1982 with the successful assault by British troops, has already had a significant effect on domestic politics, on the relationship between Britain and her allies, and on the foreign policy of her principal ally, the United States. These and other important topics will be outside the scope of this brief paper which will concentrate on the military lessons to be learned from the 'war' and on the potential consequences for British defence policy in the decade ahead.

That there are important lessons to be learned is undeniable even though the warfare was limited, distant, and some argue, almost of the nineteenth century in certain respects. Much of what has been said and written since the crisis began three months ago is based on incomplete or incorrect information. Many analysts, politicians and military men throughout the world will be gathering information for sifting and analysing. Already a team of operational analysts and weapons experts have been dispatched, and John Nott, Secretary of State for Defence, has indicated that there will be an inquiry lasting approximately four months culminating in the publication of recommendations in a White Paper and, it is hoped, in the swift implementation of appropriate actions.

The Prime Minister, Mrs Thatcher, has announced an inquiry, to be chaired by Lord Franks and senior Members of Parliament, into the controversial events leading up to the invasion. The exact format is not known at time of writing (25 June 1982), but we do know that Mrs Thatcher is anxious to broaden the inquiry to include the Falklands policies of previous governments as well.

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There are also to be separate naval inquiries into the sinking of the individual ships.

The Defence Committee of the House of Commons, established in 1979 and consisting of eleven backbench MPs, decided shortly after the Task Force set sail that it would inquire into 'the state of readiness of HM Forces and the dispositions made up to 2 April, and military operations consequent upon those dispositions.' This subsequently has been broadened and will encompass the controversial MoD relations with the media.<sup>1</sup>

The inquiry will begin on 20 July and no doubt the various investigations, particularly the MoD's own inquiry, will yield much of relevance as well as provide another opportunity for special pleading by the individual services. The conflict in and around the Falklands has reopened the debate on the future defence position of Britain which John Nott had hoped to settle in his paper 'The United Kingdom Defence Programme; The Way Forward' of June last year. The conflict may thus prove significant in the post-war evolution of British defence and foreign policy, and may have considerable bearing on future directions.

## Military Implications

Analysis of the military consequences of the Falkland Islands reveals a lack of clear consensus among the experts. Indeed, there appears to be a 'something-for-everyone' mentality emerging. Everyone seems to be claiming that the conflict in the South Atlantic vindicates his line of strategic thought. For example, in the current US debate on the size of aircraft carriers, Navy Secretary John Lehman believes that the US Navy should construct two additional *Nimitz*-class carriers, citing the British deficiency in long-range air power as the major reason for her losses at sea; but opponents, including Senator Gary Hart, point to the vulnerability of large ships, quipping that Lehman's new carriers should be



christened the USS *Sheffield* and the USS *Belgrano*.<sup>2</sup> To a degree the Falklands have vindicated both, but until more data emerges and the 'experts' are willing to form a more objective view of the conflict than that which reflects their parochial pre-war trends of thought, there is little hope of ascertaining the real lessons of the Falklands. The first step towards such an end is identifying the issues which should be analysed.

#### *Surface ships and fleet defence*

World-wide attention was focused on this first naval confrontation since World War II, and one in which the arsenals of the electronic age were tested. The most publicized action was the sinking of HMS *Sheffield* by a French-built *Exocet* missile fired by a French-built *Super Etendard*. The effectiveness of this air-launched version, which also sank the container ship *Atlantic Conveyor*, and its land-based version, which severely damaged HMS *Glamorgan*, underscores the vulnerability of surface ships. However, many armchair admirals have prematurely condemned the effectiveness of the British surface ships and their weapons systems, for one must remember that both the ships and weapons systems were designed primarily for anti-submarine warfare in the North Atlantic and not for support in amphibious operations. The air defence systems were supposed to act in concert with land-based aircraft. The medium-range anti-aircraft and anti-missile system *Sea Dart*, which is designed to counter medium and high level threats, was effective in preventing aircraft from attacking targets from high altitudes and from launching long-range stand-off missiles. According to Secretary Nott, *Sea Dart* was the naval missile system which downed the largest number of Argentinian aircraft. Aircraft that evaded the *Harrier* patrols and faced an effective medium SAM system made their attacks from low level to avoid radar detection. The loss of HMS *Sheffield* might have had nothing to do with the effectiveness of *Sea Dart*, as it appears that the attack occurred when the ship's radar was switched off in order to operate a satellite communication system. If the radar had been on, it is conceivable that the HMS *Sheffield* could have downed the attacking aircraft before the deadly cargo was launched. Despite *Sea Dart*'s effectiveness, it did have many operational deficiencies. One correspondent stated that *Sea*

*Dart* was Britain's greatest threat to low flying albatross. Fire co-ordination was difficult with other ships, as many ships 'locked on' to the same target with the result that other planes went through the system. Only missiles on the actual launching were operational; all others remained cool and inert in the ship's magazine. Also, the ship lay open to subsequent waves of attacking aircraft when reloads required a horrifying two minutes to warm up their gyros.

Deficiencies might have been foreseen and corrected in the planned *Sea Dart* modernization programme. Mr Nott's cuts, however, did not include scheduling the system for modernization, the lack of which led *Navy International* to conclude before the Falklands crisis that, 'the *Sheffield*-class will be unable to cope with the kinds of threats that may be encountered in the second half of the decade.'<sup>3</sup> Still, *Sea Dart* was expected to do something that her design did not allow. In addition to the lack of land-based airborne warning and control systems (AWACS) and fighters, the Type 42 *Sea Dart*-armed destroyers were deployed as radar pickets in exposed vanguard positions. All three Type 42s acting as pickets were hit: HMS *Sheffield* and HMS *Coventry* were sunk, and HMS *Glasgow* miraculously escaped destruction when a bomb passed through both sides of the ship. Finally, when assessing the effectiveness of shipborne aerial defence systems a 'kill' ratio of 50 per cent is considered to be high.

The ship that carried *Sea Dart*, the Type 42 destroyer, has been criticized for being under-armed. The 4,000-ton ship, which cost £85 million to build and £150 million to replace, was compared unfavourably by *Navy International* to the Soviet *Krivak*-class whose size is comparable.<sup>4</sup> Indeed, many cost reductions in addition to *Sea Dart* modernization have made the Type 42 a less capable ship. The most important of these reductions, the 30 per cent decrease in ship size, precluded the addition of the highly capable *Sea Wolf* anti-missile missile system. Pending the final decision to employ the light-weight *Sea Wolf* programme, consideration will be given to the addition of a different point missile system such as the NATO *Sea Sparrow* or a terminal defence like the *Vulcan Phalanx* gun both as quick fixes and long-term alternatives.

The unique British Aerospace *Sea Wolf* missile is extremely fast and extremely accurate, but it



occupies so much space that it can only be deployed on specially-built ships. At present it is only deployed on the Type 22 *Broadsword*-class frigate. Two of these ships were in the Task Force and later supplemented by some *Leander* frigates. These ships survived repeated air attacks and brought down a large number of the planes that attacked them. They are only effective, however, in protecting other ships when they are placed between the attacking missile and the ship to be protected. The US Navy has been aware of *Sea Wolf* for the last eight years, but has not serviced a comparable system because of the system's large size and its inability to be deployed on older vessels. Thus, both the US Navy and the Royal Navy have chosen the *Phalanx* system, which has recently been deployed on the carrier HMS *Illustrious* and the Type 42 destroyer HMS *Newcastle*. British Aerospace is proposing a 'bolt on' system with a new light-weight radar system by Marconi. The government has supported the system so far, but it is uncertain, given the costs of *Trident* and 'Fortress Falklands', whether such a programme will be realized.

Not only has the Ministry of Defence delayed ship-borne missile programmes, but it has apparently rejected a proposal for updating electronic counter-measures on board the Task Force's ships. Used in conjunction with the largely manually-operated Abbey Hill electronic counter-measures system, the proposed modifications might have been able to jam the guidance radar of the *Exocet* missile. Also, the Royal Navy will have to assess the importance of 'chaff' - thin metal strips fired from small calibre guns to deflect the radar waves of a missile from its target.

#### *The importance of submarines*

The Falklands experience demonstrated the importance of submarines; the fear of British submarines after the sinking of the *Belgrano* kept the Argentinian navy bottled up in port. However, the primary importance of nuclear submarines is anti-submarine warfare. There could have been holes in Britain's submarine-enforced blockade; the World War II vintage *Santa Fe* penetrated through to South Georgia before it was caught on the surface. In another incident following the attack on HMS *Sheffield*, a frigate launched a torpedo attack against a suspected enemy submarine.

There may be lessons here for the US Navy as well. Cdr. John L. Byron of the US Naval Institute states that 'a carrier's ASW protection often resembles Swiss cheese.'<sup>5</sup> Admiral Hyman Rickover predicted that a carrier would last only two days in an all-out war. Unlike *Exocet*, which hits above the water line, a torpedo holes below it making a ship extremely difficult to keep afloat. Wire-guided torpedoes ensure that submarine attacks will be effective. Although some argue that a battleship could withstand both missile and torpedo attacks, reactivating these ships, in the words of Senator Goldwater, 'is like trying to renew the army by digging up General Custer.'<sup>6</sup> The Falklands conflict showed that all surface ships are vulnerable, and in the future, the US Navy must cushion the possibility of losses by building more ships. Large specialized ships may be survivable, but if temporarily put out of action, they are as good as sunk for the remainder of the battle; smaller ships might sink, but money saved will enable her sister ships to continue fighting.

#### *Ship design*

An investigation must not only include why the ships were hit but what happened to them afterwards. The Type-21 frigates were fitted with all the latest fire-fighting equipment including sprinkler systems and fire-proof hatches and doors. The Royal Navy trains regularly and is considered extremely proficient in damage control situations; yet the ship burned. Naval experts are quick to attribute the fire to the use of aluminium. Although half the weight of steel plate, aluminium melts at 700°C compared to 1,500°C for steel. Experts are speculating that the next generation of warships, including the Royal Navy's Type 23 frigate, will revert to steel; however, aluminium should not be too hastily condemned. Aluminium enables ships to be smaller, faster, and armed with more weapons systems, and prevents ships from becoming top heavy and unstable: steel would necessitate large ships which would be extremely expensive and perhaps unstable.

The key question is whether aluminium was the main reason why the ships burned and then sank. In World War II, the Japanese launched the biggest and most armoured battleship, the *Yamato*, yet, a series of aerial torpedoes and bombs sent the vessel to the bottom of the



Pacific. The point is that even though the next generation of ships is made of steel, sea-skimming missiles, like the *Exocet*, may still sink ships. Despite a missile's rather small warhead of only about 300 pounds, the sheer kinetic energy produced by a 13-cwt missile striking at near supersonic speeds would be enough to start fires and devastate a target. In addition to the power of the warhead, the presence of high explosive and unused propellant contribute to, and further explain, the damages suffered by the HMS *Sheffield*. The key lesson here is that surface ships operating alone without adequate air cover are vulnerable.

Fire fighting aboard these ships was made difficult by the thick choking smoke, probably caused by the burning of electrical insulation made from polyvinylchloride (PVC). Testing of target vessels involves the stripping of all electrical wiring so the choking smoke was not accounted for. Also, test target ships are drained of useable fuel and ammunition; the fuel is particularly hazardous, because gas turbine vessels run on a highly flammable mixture similar to the aviation fuel called JP5. The Type 21-class, which included *Ardent* and *Antelope*, had previous fire problems which the modifications to companion-ways greatly reduced. Newly constructed ships must use modern materials and in particular materials similar to chobham armour or keylar for protective covering of vital parts.

#### *Aircraft and air defence*

One of the bright spots of the campaign was the effectiveness of the *Harriers*. Although they performed extremely well, they were fighting while operating at the limits of their range. The *Mirages* rarely utilized their supersonic capabilities because of the drain it placed upon fuel consumption; travelling at supersonic speeds caused their fuel consumption to rise from 200 to 400 litres per minute. There were very few dog fights and most of the Argentinian aircraft were downed by *Sidewinder* missiles. Though the *Harrier* pilots performed brilliantly, often having only two minutes to react to enemy aircraft and spending up to 10 hours in the cockpits, pilot degradation resulting from a large number of sorties should be looked into.

The operational maintenance and readiness of the *Harrier* aircraft was another highlight of the

campaign. Indeed, the unsung heroes of the campaign are the *Harrier* ground crews, who kept the aircraft flying 90 per cent of the time. This is in sharp contrast to figures published in the *Armed Forces Journal* which indicated that the AV-8A was not mission capable 39.7 per cent of the time.<sup>8</sup> The effectiveness of the *Harrier's* ground attack capabilities has been confirmed by the war, but it is emerging that it is a less effective weapon when attacking hardened targets such as airfields. The *Harriers* were inadequately armed, as the Jp233 anti-airfield bomb is not in service, and the *Harrier's* range was reduced by its heavy ordinance. Lack of reconnaissance aircraft further reduced effectiveness, and cloud cover obstructed American spy satellites. These last two conditions meant that most *Harrier* raids were conducted against military installations around the airfield rather than against the airstrip itself. Although they dropped cluster bombs along the runway, effecting destruction of the surrounding ground and parked aircraft, the Argentinians were still able to fly *Hercules* transports into Port Stanley.

While much has been said about the effectiveness of AWACS, one must still wonder whether a subsonic *Harrier* could take on supersonic aircraft in the North Atlantic. Although AWACS could have helped the British in the South Atlantic, it does not transform the *Harrier* into a conventional fighter. While the *Harrier* can play an important role in NATO air defence, its performance does not detract from the importance of F-15, F-16, or *Tornado* aircraft. The lack of AWACS was, nevertheless, a serious deficiency, and a heliborne system should be designed; indeed, Britain should consider looking into the US Navy's research project concerning V/STOL AWACS.

The *Vulcan* raids were also ineffective. Though the first raid on 1 May dropped most of the 21 1,000-lb bombs on the runway, the second raid was a near miss as bombs fell to one side of the runway. The Royal Air Force (RAF) has a laser-guided system which could have turned the munitions into 'smart' bombs as achieved in Vietnam, but such accuracy would have necessitated a second aircraft to illuminate the target. Also, the RAF did not have enough *Victor* tanks to refuel more than one *Vulcan* at a time on such a long sortie and still maintain their safety margin, as the flight from Ascension Island to the



airfield target was 4,000 miles, and three *Victors* were necessary on a single aircraft raid. Though it is possible for one of these tankers to refuel another over an extended distance, had the Falkland Islands been closer to the Argentinian mainland, the refuelling process may have been intercepted by the *Mirage*.

The failure to destroy the airfield at Port Stanley and the need for RAF *Phantoms* illustrates the importance of adequate air strategy. This strategy may be difficult to formulate due to the inter-service squabbles which will occur. Since the Royal Air Force had the least important role to play in the conflict, their political power within the Ministry of Defence may be diminished. Thus, they may be the prime candidate for future cuts in the defence budget. This would be disastrous, as Britain needs a flexible air force with the capabilities of performing a number of roles. Should future aircraft development programmes be cut, the RAF will be left only with *Tornado*. This is an excellent interdiction aircraft, but it is not an aerial superiority fighter.

Although the *Tornado* will perform air defence, ground attack is more worrying. The AV8B is of great assistance but is not as effective as the A-10 tank attacker. Effective strategy will often require the elimination of airfields early in a conflict; however, the results of attacks on the Stanley airfield show how durable they can be.

More attention must focus on rendering airfields inoperable; conversely, proper airfield defence must be maintained. Effective airfield defence would necessitate not only technologically advanced and properly maintained conventional arms, but possession of in-depth knowledge on the use of this equipment in planned strategies. In the Falkland Islands, the *Rapiers* performed well, but the men had no practice in dealing with this anti-aircraft missile system until it had reached Ascension Island.

In addition to the need for training with weapons systems in a time when technology compensates for numerical deficiencies, missile systems must be mobile and among the first priorities of a landing force. For example, the disaster at Bluff Cove was caused in part by the inoperability of the *Rapier* detachment. Because *Rapier* was not mobile, it was unable to keep up with advancing forces. Troops were forced to rely on *Blowpipe*, a shoulder mounted surface-to-air

missile with a range of 2½ miles. *Blowpipe* proved effective in the Falklands, but its success might not be repeated on the Central Front where a soldier firing it would expose himself to enemy fire. This exposure was not an obstacle in the Falklands, however, where most Argentinian troops were holed up in garrisons. Although the Falklands experience has highlighted the importance of precision-guided munitions, we must be careful not to delude ourselves into thinking that they are a replacement for armoured fighting vehicles and fixed air defence positions. The Central Front with its waves of Soviet tanks would be very different from the actions which took place on the Falkland Islands.

#### *Intangibles: weather and training*

For those who are tempted to see modern warfare as nothing more than a contest between rival electronic systems, the campaign has been a sobering reminder of the awesome power of the elements and the will of the infantryman. Despite the use of sophisticated hardware, the weather has dictated when the helicopter could operate, when the Harrier could attack, and when the Argentinian Skyhawks could launch their devastating attacks. Cloud cover allowed 5 Brigade to leap-frog into Fitzroy, but when it lifted, the Argentinians could attack the warships. Although many overlooked the Argentinian winter, the climate should not have been underestimated. The Falklands are not particularly cold, but the Royal Marines considered conditions there far more dangerous than in the Arctic. Unpredictable weather, sunshine, mist and snowstorms, coupled with rain and wind, combined to make good conditions for exposure. In addition, the Falkland Islands' rough terrain and cold, damp conditions sometimes caused the normal marching pace of 4 mph to decrease by half.

According to one journalist, the Royal Marines were better prepared for the elements than was the army. The Guards battalions had spent many months on ceremonial duties and very few on movement and survival in marginal conditions; they were not considered fit enough to march across the island in the same fashion as the Royal Marines and the Paras. The confusion and difficulty that arose from using a brigade with so little experience in working together and in warfare in adverse conditions showed how invaluable to the



campaign the Commando brigade had been. Without them, this operation would have been unthinkable. Indeed, the Special Air Service (SAS), Special Boat Section (SBS) and commandos fought a 'war' for which they had been trained – carrying out a series of successful raids on enemy airfields and positions, and playing an important role in obtaining intelligence and reconnaissance, especially when cloud cover prevented US spy satellites from operating reliably.

The British troops have once again earned the title of 'best trained, worst equipped'. It is in the hard climatic conditions of the Falklands that the training, self discipline and *esprit de corps*, inculcated into the British army, come into play. Invaluable also, was the experience in Northern Ireland, where NCOs learned to take unprecedented responsibility and soldiers discovered the difference between the 'let's pretend' of exercises and the reality of war.

#### *Mobilization and logistics*

Many lessons have been learned by the Ministry of Defence and by its industrial contractors. The contractors kept the Navy at a very high state of readiness. Contingency plans for the mobilization of the merchant marine worked well. In liaison with the Department of Trade, defence officials picked out suitable merchant ships, from trawlers to the *Queen Elizabeth II*, chartered or commandeered them, and then often had surveyors on board to plan for the fitting of helicopter pads or other conversions before the vessels had even reached their home ports. Meticulous pre-planning also took care of ensuring that the right stores and equipment were transported in the specified quantities and loaded in the correct order. Cargo dispersal, however, was a problem. Specialized ships were used to transport a single item, but high priority items should have been dispersed among many ships so that a single item would not be completely destroyed. When the *Atlantic Conveyor* was hit, it carried many helicopters and a large quantity of tents; these and similar items should have been divided among several ships.

Despite the fine record of the Ministry of Defence, problems nevertheless occurred. The portable airfield is still awaiting shipment in Southampton, and the first deployment of *Rapier* was only made in the optical mode, owing to an administrative error which prevented some of

its logistical equipment from arriving on time. The conflict also showed that the Ministry of Defence can move with speed, if it must, to arm planes with *Sidewinder* and refuelling probes.

The British arms industry learnt some lessons from the mobilization too. Perhaps the key task facing British Aerospace was converting *Nimrod* aircraft for inflight refuelling; in peacetime, this task might have required two years of wrestling with red tape. Despite the fact that British Aerospace was trying to maintain spares, the conversion of the *Nimrod* was completed in three weeks. Many other firms cleared their decks and put their work force on overtime to keep up with MoD orders and provide emergency deliveries of equipment and materiel.

The overall picture is that both British industry and the Ministry of Defence have responded quickly and efficiently to the Falklands crisis and its need for extra supplies. The conflict underscores the importance of defence industries maintaining operations in peacetime as assembly lines may be hard to restart if left idle for years. The government must form a comprehensive policy to keep assembly lines open other than for selling arms abroad. (If anything, the crisis has shown the danger of indiscriminate arms sales. Prior to the outbreak of hostilities, Britain was one of Argentina's best suppliers. Unfortunately, some of the equipment was used against our forces during the conflict.)

#### *The Future of British Defence Policy*

When World War II ended, Britain was hardly a super-power, in spite of the vast territory she still controlled. The next three decades witnessed her more or less voluntary disengagement from a world role to that of a regional power of the second rank, concentrating on NATO and the EEC in her defence and foreign policy roles. It was not a complete withdrawal; the extent of Britain's global commitments remain in the form of a military presence in Hong Kong, Belize, Gibraltar, Cyprus, Brunei, Diego Garcia, and in the form of a naval presence in the West Indies and Indian Ocean. The military presence in the Falkland Islands consisted of a company of marines until the beginning of April.

The process of the disengagement was neither as rational nor as disorderly as some people indicate.<sup>9</sup> It was in a way an attempt to come to terms with the fact that *commitments* exceeded



resources, a grotesque disparity which Britain managed to conceal from subjects abroad for most of the nineteenth century. Duncan Sandys in the late 1950s and the Labour Party in the 1960s and 1970s tried various solutions which together were not completely successful in narrowing this gap between commitments and resources. The latest Tory defence review, though not called that by Conservatives, is yet another attempt in this continuing process.

The post-war period has thus been one of both continuity and change. Military manpower fell from 825,000 in 1951 to about 330,000 today. Defence spending has fallen as a percentage of total public expenditure in the same period from about 25 per cent to around 10 per cent, but defence spending as a percentage of GDP has remained fairly constant – just below 5 per cent in 1981 – well above that spent by France, Germany and all the NATO allies except the US (and Greece). It would be wrong to argue that the quality of the contribution to NATO has diminished: indeed, support for the concept of alliance and commitment of resources is high. This commitment of Britain is a contribution to NATO in four areas: the Eastern Atlantic, the Central region, defence of the home base, and strategic deterrence in the form of a flotilla of SSBN submarines carrying *Polaris* missiles.

Britain has maintained her four NATO commitments with considerable difficulty, despite her relatively unsuccessful economic performance, competing domestic priorities, and a huge escalation in equipment and manpower costs. The combination of the Falklands situation, adding appreciably to the defence budget (though fortunately not to the Ministry of Defence budget), and the decision to procure a successor system to the *Polaris* force, will pose major resource allocation problems; the maintenance of the existing commitments at the current level of effectiveness will be possible only with a considerably increased budget. When the present Government entered office, it was with a manifesto pledge that 'significant increases will be necessary'. The rhetoric has not been easy to translate into reality; even the 3 per cent annual real increase has proven troublesome.

#### *The Trident programme*

But if coping with the existing programme will be difficult, adding *Trident* will make it even more

so. The decision, finally announced to Parliament on 15 July 1980 and justified in the Defence Open Government Document (DOGD 80/23) and to Parliament and its Defence Committee many times, has been spelled out once again in the opening of the recent White Paper. Initially, it was decided that the *Trident* I (C4) missile would be purchased, but, principally in the interest of commonality with the United States, the decision was changed to purchase *Trident* II (D5) instead, and was announced on 11 March 1982 (DOGD 82/1).<sup>10</sup>

Opposition by some may be based on ethical, religious and philosophical grounds, but for others, the pro-defence yet anti-*Trident* case rests on its high costs and on its consequences for the remainder of the defence budget. The British Government's decision to procure a successor strategic deterrent based on the *Trident* missile system could necessitate a major alteration in its contribution to NATO. From available evidence, much of it submitted by the Government to the Defence Committee, it would appear to some that Britain cannot both acquire the *Trident* force envisaged and maintain her current commitment in the other areas of her NATO contributions to EASTLANT, AFCENT, and the UK Home Base.

This view was most forcibly argued in the Minority Report of the Defence Committee: 'We are greatly concerned with the opportunity costs such a purchase would represent in terms of new equipment possibilities lost and of planned equipment programmes cancelled... We feel additional money could be very usefully spent in improving the so-called "teeth" of existing forces – for example, in strengthening the air defence of the UK – and the so-called "tail" of existing forces... We are greatly concerned that the acquisition of *Trident* could have adverse affects on the quality of our conventional weapon contribution to NATO and on the morale of our forces.'<sup>11</sup>

Even the Conservative Majority Report which approved the Government's decision had some qualifications and doubts: 'Against the background of current reviews of defence commitments and expenditure, however, it is very difficult to see how it will be possible to give top priority to the *Trident* programme throughout the decade without something else being squeezed out, unless economic conditions improve drastically.'<sup>12</sup>



John Nott, in his White Paper 'The United Kingdom Defence Programme: The Way Forward', published a year ago, has argued that *Trident* can be accommodated without significant diminution in conventional capability. In the current 'Statement on the Defence Estimates 1982', published on 22 June 1982 (though printed in March before the Falkland crisis), he shows how this can be done. Not everyone was convinced, even then; the Shadow Defence Spokesman argued that Mr Nott had done it by mirrors or 'like a conjuror concealing by illusion what is really happening to the defence effort.'<sup>13</sup>

In the best analysis of the 'reshaping' (Conservatives do not cut) of Britain's defences, David Greenwood writes:

'Decisions have been taken to *reduce* front line forces and the strengths of the Services, together with the supporting infrastructure of defence. The new model programme – for that is what it is – embodies provision significantly different from that in the old for fulfilment of three of the major tasks to which the national defence is directed. Contraction in the the scope of naval and military dispositions, and transformation in the character of some of them are foreshadowed.'<sup>14</sup>

The Government simply did not have the resources, and are not likely to obtain them, to sustain its defence commitments and aspirations. To maintain 'balanced' forces – what one politician called maintaining Britain as a scaled-down version of the American military – has left British conventional forces stretched to their limits. While even without *Trident*, the defence budget was under pressure, spending on *Trident*, even spread over 15 years, will make matters even more difficult. Mr Nott has argued repeatedly that it will require 3 per cent of the budget, but it could represent as high as 20–25 per cent of the new equipment budget. The principal victim of the Nott 'adjustments' was to be the Navy. By 1985–6 the number of escorts was to be reduced to 75 per cent of the pre-Falklands total (from 66 in mid-1981 to 44 in the mid-1980s), the *Invincible* was to be sold, and the docklands were to be closed.

#### *The future of the Royal Navy*

Though the Admirals fought and lost and the Junior Navy Minister was dismissed for opposing Government military proposals, both main-

tained the fight in public and private. It was ironic that a number of the Task Force that set sail, as well as some of the sailors, were scheduled for sale, scrap, mothballs or unemployment. Lord Hill Norton, former Chief of Defence Staff and Admiral of the Fleet, wrote in the aftermath of the victory:

Make no mistake, we were able to deal with this problem effectively because we were living off the fat of the pre-1981 Defence Review. In two years time that fat would have been cut off and we should have been unable to mount such an operation. There is a distinct possibility we would have been defeated had we attempted it.<sup>15</sup>

If the Argentinians had waited for the consequences of Defence Secretary Nott's cuts, 'They might', in the words of General Sir John Hackett, former commander of NATO's Northern Army Group, 'have gotten away with it.'<sup>16</sup> Without *Intrepid* and *Fearless*, which were recently saved from the scrap yard, with *Invincible* due to be sold to Australia, and with *Antrim* and *Glamorgan* due to be withdrawn, an amphibious operation on a large scale would have been difficult, if not impossible, to perform.

The 'war' has given the Navy the opportunity to restate its case, not only for the replacement of its lost ships, but for a considerable increase in the pre-review figures to save the doomed dockyards, to cancel the sale of the *Invincible* to Australia, to implement obviously needed defences against air attack, and to restore to the Navy its extra NATO dimension.

The size of the Navy after the Falklands nevertheless remains uncertain. Prior to the conflict, the government ordered only 4 of the 27 warships planned for the Navy between 1979 and 1987, and its expenditure on naval shipbuilding is only half that achieved by the previous Labour government. Secretary Nott's defence review cut the Navy by one third, envisioning 42 active and 8 reserve ships. In light of its post Falklands victory, the Navy is asking for 100 ships, but will settle for 70; however, Mr Nott appears to be offering only 50 active vessels. The Navy is also advocating that an expensive Type 22-style ship be the backbone of its post Falklands shipbuilding programme instead of an austere Type 23 vessel which costs half as much. The Navy's chances of obtaining the Type 22 vessel prior to



the Falklands were slim, but now, after the vessel and its *Sea Wolf* missile had a 'good war', the Navy is hoping that the government will agree to an only-the-best-will-do policy. The Navy must realize, however, that the present cost of the Type 23 utility frigate is expected to exceed its cost parameter of £60 million and, therefore, could not afford to accommodate even the light-weight *Sea Wolf* system.

The lack of communication among the naval staff, the ship designers in Bath, and the Ministry of Defence is a major reason why unrealistic proposals exist. Several factors make communication difficult: the naval Junior staff officers are totally unschooled in the Civil Service system which dominates the Ministry of Defence, much of the naval staff's time and effort is spent on minor issues rather than on the formulation of naval strategy, the Ship Department is located in Bath, and the Ministry of Defence is so torn with interservice strife that realistic policy formulation is difficult, if not impossible.<sup>17</sup> The Navy has always been hard hit in the struggles of policy-making because the costs of its weapons systems, the submarines for example, are so enormously high.

*Trident* and the retirement of older submarines will put a tremendous strain on British underseas forces. Plans by the government to increase the number of nuclear hunter-killer submarines show on examination to be essentially a continuation of long-term plans laid down in the mid-1970s. Although Vickers claims that they could turn out one *Trafalgar*-class submarine every 12 months, there is no indication that the rate of ordering will be increased; two more remain to be ordered and a seventh has been dropped. Submarines presently under construction or on order are unlikely to be completed before the late 1980s, by which time older SSN like *Dreadnought*, *Valiant* and *Warspite* will have to be retired. By 1990, the Royal Navy submarine force is likely to number no more than 15 and of these, 5 or 6 at any time will be undergoing refits. If 3 submarines are stationed in the Falklands, then only about 7 will be available for NATO patrol. There is no indication that the SSN production line at Cammel Laird's Birkenhead shipyard, mothballed for the past 10 years, will be reopened; without such a facility, the building of 4 *Trident* submarines at Vickers Barrows will preclude SSN construction in Britain until 1992.

#### Implications for NATO

As much as Britain can learn from the Falklands, the implications for NATO are far greater. The revised British defence policy was a break from the past. Since World War II, Britain attempted to maintain a balanced force designed primarily for NATO and almost exclusively for NATO after the withdrawal from East of Suez. For years, the increasing cost of weapons systems was stretching the balanced line extremely thin. Last year major holes emerged in this line, as the surface fleet was cut by one-third and the Royal Navy concentrated on underwater forces. The new policy did consider extra-territorial contingencies, but operations in those areas are eccentric to any role that British forces will have in the future. The consequences of a smaller fleet deployed in a larger ocean area would be a severe reduction of Britain's role in the North Atlantic, though the primary defence contingency must continue to be NATO. Britain's large contribution to NATO was one of the major reasons for EEC support throughout the crisis.

What is essential is that we do not allow the Falklands to distort our primary strategy. Because of the costs of maintaining a Falklands garrison and *Trident*, many people are saying that British forces in Germany are an expensive anachronism, their contributions to the Alliance being of relatively little military importance and only of limited political leverage; thus, Britain should instead concentrate on a maritime strategy. Less extreme proponents concede the political-military value of some British troops and aircraft on the continent of Europe, but see no reason why they should be so numerous or be committed forever to the defence of a particular length of front. The Brussels Treaty, however, commits Britain to 55,000 troops and a substantial Air Force in Germany, and though this treaty was concluded in the days of national service when the army was three times its present size, a partial abrogation could send shock waves through the Alliance. Damage to morale in the Western Alliance would probably be greater than that from any other single action. Gaps would have to be filled with German forces and this could possibly cause additional concerns.

Recognizing the major diplomatic and military problems which such withdrawals would cause, others advocate a radical reduction in Britain's Eastern Atlantic presence, to allow the fleet to be



deployed in other areas. The arguments for this are (1) that no war in Europe will last long enough for seaborne reinforcement; (2) that the US Navy is powerful enough; and (3) that protection of the Northern Flank amphibious forces is unnecessary in peacetime and suicidal in war. But the short war scenario is risky to plan for, as it assumes a rapid escalation towards the brink of nuclear warfare. This scenario also contradicts the protracted war strategy which was recently introduced by NATO. As for the US Navy, it was already overburdened by previous global commitments and was severely taxed by additional deployments in the North Atlantic during the Falklands campaign. A naval presence in the Eastern Atlantic is not only important in wartime, but also in the grey area leading up to a conflict. In other words, the Royal Navy acts as a deterrent against any kind of aggression in the Eastern Atlantic. The removal or drastic reduc-

tion of the British maritime effort in the Eastern Atlantic would leave a dangerous void, particularly in the critical period at the outbreak of hostilities. Finally, no other NATO navy can replace the Royal Navy in the Eastern Atlantic where it provides 80 per cent of the forces.

In many European nations, any proposal that naval expenditure be increased to compensate for a British policy of retrenchment would fall on deaf ears. By the same token, the Air Force cannot be cut for it is essential to NATO security. Maritime long-range strike aircraft are also important, and, of course, aerial tankers are essential. However, given the Falklands crisis and *Trident*, it will be impossible to maintain a balanced force. Rationalization may be an answer, but such discussions must be made within the Alliance structure. If the decisions are made in a dual Imperialist and Gaullist fashion, then the Alliance will be severely damaged.

#### NOTES

<sup>1</sup> For a study of the Defence Committee, see George, B. and Pieragostini, K. 'The Making of British Defence Policy: A Role Again for the House of Commons', a paper presented to the American Political Science Association, New York, September 1981.

<sup>2</sup> Quoted in *Newsweek*, 17 May 1982, p. 39.

<sup>3</sup> *Navy International*, October 1981, p. 602.

<sup>4</sup> *Ibid.*

<sup>5</sup> Quoted in *Newsweek*, 17 May 1982, p. 39.

<sup>6</sup> 'Are Big Ships Vulnerable?', *Newsweek*, 3 May 1982.

<sup>7</sup> John Nott, Statement Before the Select Committee on Defence, 23 June 1982.

<sup>8</sup> As cited by James Fallows in his *National Defense* (NY: Random House, 1981), p. 41.

<sup>9</sup> For author's view, see Bruce, George and Pieragostini, K.

'British Defence in the 1980s: What Price Trident?', *International Security Review*, Vol. V, No. IV, Winter 1980-81.

<sup>10</sup> House of Commons, 4th Report from the Defence

Committee Session 1980-81, *Strategic Nuclear Weapons Policy*, 26 May 1981; and 1st Report Session 1981-82, *Strategic Nuclear Weapons Policy*.

<sup>11</sup> 'The First Special Report from the Defence Committee', 21 April 1982, HC 266-I.

<sup>12</sup> 'The Fourth Report of the Defence Committee', 20 May 1981, p. xxii.

<sup>13</sup> *The United Kingdom Defence Programme: The Way Forward*, Cmnd 8288, June 1981.

<sup>14</sup> David Greenwood, 'Reshaping Britain's Defences', *Aberdeen Studies in Defence Economics*, No. 19, Summer 1981.

<sup>15</sup> *The Mail on Sunday* (London), 20 June 1982.

<sup>16</sup> General Sir John Hackett, 'Britain Must Spend More on Conventional Defence', *Sunday Times* (London), 20 June 1982.

<sup>17</sup> John Moore, 'Is small beautiful? Is cheap nasty?', *RUSI Journal*, September 1981, pp. 33-4.





ESCUELA DE GUERRA NAVAL

TACTICA

VISITA A LA "BRITISH AEROSPACE"

(Información personal del Agregado  
Naval en Londres de fecha AGO.82)







Información Personal del Agregado Naval en LONDRES

ASUNTO: VISITA A LA "BRITISH AEROSPACE"

1. Invitado por la "British Aerospace" en el día 6 del presente mes, visité la "Borough Division" en Kingston upon Thames, situada en las cercanías de Londres.
2. A mi llegada, fui recibido por Mr. John J. Parker, encargado de ventas en latinoamérica, el cual procedió a darme un pequeño "briefing" para que conociese las diferencias esenciales existentes entre la versión del "Sea Harrier" y los tipos "AV-8S" y "GR-3S" así como las mejoras que a media vida piensan introducir en el mismo.
3. Como estas diferencias entre ambos aparatos son sobradamente conocidas por ese E.M., no me parece necesario repetirlas, y lo único que deseo resaltar en este informe, son las noticias que me dió, de lo que hasta ahora conocen, del comportamiento del "Sea Harrier" y el "GR-5" en el conflicto de las Malvinas, aunque me hizo constar que aún el Gobierno no les había entregado los informes totales del comportamiento en particular de cada aparato, y que esperaban tener más información a finales de Septiembre o en el próximo mes de Octubre.
4. El número de aviones "Harrier" que participaron en la campaña fué de 43, que se fueron incorporando de la siguiente forma:
  - 4.1. Embarcados en Gran Bretaña 12 "Sea Harrier" en el P/A "Hermes" y 8 en el "Invincible".
  - 4.2. En vuelo hasta la Isla Ascensión con relleno en vuelo desde Aviones "Victor" y después embarcados en el "Atlantico Conveyor" en latitud 52° Sur y de allí en vuelo a la Task Force 8 "Sea Harrier" y 6 tipo "GR-3S" de la RAF.
  - 4.3. En vuelo hasta latitud 52° Sur, tomando antes en la Isla Ascensión y con relleno en vuelo 9 "Harrier" "GR-3S".
5. El número de salidas fué aproximadamente de 2.000. El promedio de horas fué de 55 mensuales con 6 salidas diarias, con 3 ó 4 salidas

.../por piloto-día y ...



por piloto-día y la relación de piloto/avión fué al principio de 1.2 y finalmente de 1.4, siendo el grado de disponibilidad de aviones de un 80%.

6. El total de aviones argentinos destruidos fué de 105 que se distribuyen de la siguiente forma:
  - 6.1. Por "Sea Harrier", 31 derribados.
  - 6.2. Por SAM, 37
  - 6.3. Por otras armas, 7
  - 6.4. Destruídos en tierra o capturados, 30.
7. Los 31 derribos de los "Sea Harrier" fueron de los siguientes tipos:
  - "Mirage", 19
  - "A-4", 5
  - "Pucara", 2
  - "Camberra", 1
  - "C-130", 1
  - "Helos", 3.
8. El armamento usado para estos derribos fué:
  - 8.1. Misiles Sidewinder: 24 El total de misiles disparados fué de 27, 1 falló y 2 fueron mutuamente destruidos.
  - 8.2. Por cañón Aden de 30 mm.; 7 aviones.
9. Los misiles SAM que derribaron aviones fueron:
  - "Sea Dart", 7 aviones.
  - "Sea Wolf", 5 aviones.
  - "Sea Cat", 6 aviones.
  - "Rapier", 9 aviones.
  - "Hand held", 10 aviones.
10. El resto de los derribos fué: 1 avión por cañón de 4.5, y por impactos de la a/a argentina y pequeñas armas, 6 aviones.

.../Las pérdidas ...



11. Las pérdidas británicas fueron:

11.1 Por la defensa a/a de tierra argentina, 2 "Sea Harrier", con 1 piloto muerto y 3 "Harrier" "GR-3S" sin pérdidas humanas.

11.2 Además de estos, se perdieron 6 "Sea Harrier" con 4 pilotos muertos por las siguientes causas:

11.2.1. Por deslizamiento, en cubierta, al tomar en el P/A, 1 avión.

11.2.2. Por precipitarse al mar después del lanzamiento, un avión con pérdida de piloto.

11.2.3. Por colisión en vuelo y caída al mar 2 aviones con la pérdida de los pilotos.

11.3 Esto da una relación de promedio de pérdidas por salidas, inferior a  $\frac{1}{2}\%$  y las pérdidas operativas por salida, menor de  $\frac{1}{4}\%$ .

12. El comportamiento en general de los aviones fué excelente. Se les hicieron unos mantenimientos intensivos desde que la Task Force salió de Inglaterra hasta que llegó a las Malvinas. Muchos de ellos fueron dirigidos desde la propia factoría. Esta no mandó personal a excepción de un grupo que fué a la Isla Ascensión para proceder al cambio del nuevo radar en algunos "Sea Harrier" que tenían equipos que no habían sido actualizados. Lo que los tenía muy preocupados eran unas corrosiones que aparecían en la rueda del morro en algunos aparatos. Después de exhaustivas investigaciones todo resultó ser producto de las distintas doctrinas que aplicaron los Comandantes de los P/A. Al parecer el Comandante del "Invincible" (no estaba muy seguro del orden de los buques) ordenó que los aviones, cuando estuvieran armados, permanecieran en cubierta, mientras que el Comandante del "Hermes" (o viceversa) los mandaba a los hangares. Esa fué la razón de que unos aviones estuvieran sometidos a una serie de rociones de mar, que los otros no recibían.

De los 109 aviones argentinos derribados, los "Sea Harrier" derribaron 24 con el disparo de 27 misiles "Sidewinder". Los dos perdidos fué debido a que el piloto disparó por error un 2º misil que atacó al 1º destruyéndolo.

13. En general he observado, como es lógico, un orgullo y satisfacción por el comportamiento de este avión, aunque dentro del optimismo,

.../Mr. ParKer dijo...



Mr. Parker dijo que no podían dejarse llevar por la primera impresión que daban las lecciones aprendidas en las Malvinas, ya que no debía olvidarse que los aviones argentinos habían luchado con el "handicap" de su autonomía.

14. Una idea del resultado de estos aviones es que los 6 aparatos "Sea Harrier" que se han embarcado en el "Ilustrius", que va a relevar al "Invencible", pertenecen a la escuadrilla que estaba embarcada en el "Hermes", llegaron aquí hace unos 10 días y de nuevo vuelven a las operaciones en las Malvinas.
15. En la visita que hice a la factoría estaba en la cadena de producción el nº 34 de los aviones que se construyen para la Marina como "Sea Harrier" -y también estaba construyéndose otro "Sea Harrier" para la India.



ESCUELA DE GUERRA NAVAL

TACTICA



CONTAINING THE AIR THREAT

(Navy International SEP. 82)







# Containing the Air Threat



by Professor Neville Brown, FRMS

No doubt the months ahead will reveal a lot more information about the operational aspects of the Falkland crisis. Yet as this happens, the important thing will be not to draw inferences that are too universal and categorical. Thus as regards the general balance between warships and strike aircraft, nothing that has occurred within the peculiarly narrow confines of Falkland Sound or, indeed, anywhere else in the South Atlantic can offer more than a few pointers to the overall prospect for, say, the rest of the century. The singularities of the situation have been too marked for that. So is the dynamic of technical change.

Not least among the special features has been that all air bases on Argentine soil have been more or less immune from attack. As with the similarly tough campaigns off Norway in 1940 and Crete in 1941, this may essentially have been because both the Royal Navy and the Royal Air Force have lacked a capability for air strike of the range and strength required. In the Falklands war, however, a contributory factor has been apprehension lest air attacks on the mainland of South America arouse, to Britain's disadvantage, a latent spirit of continental nationalism.

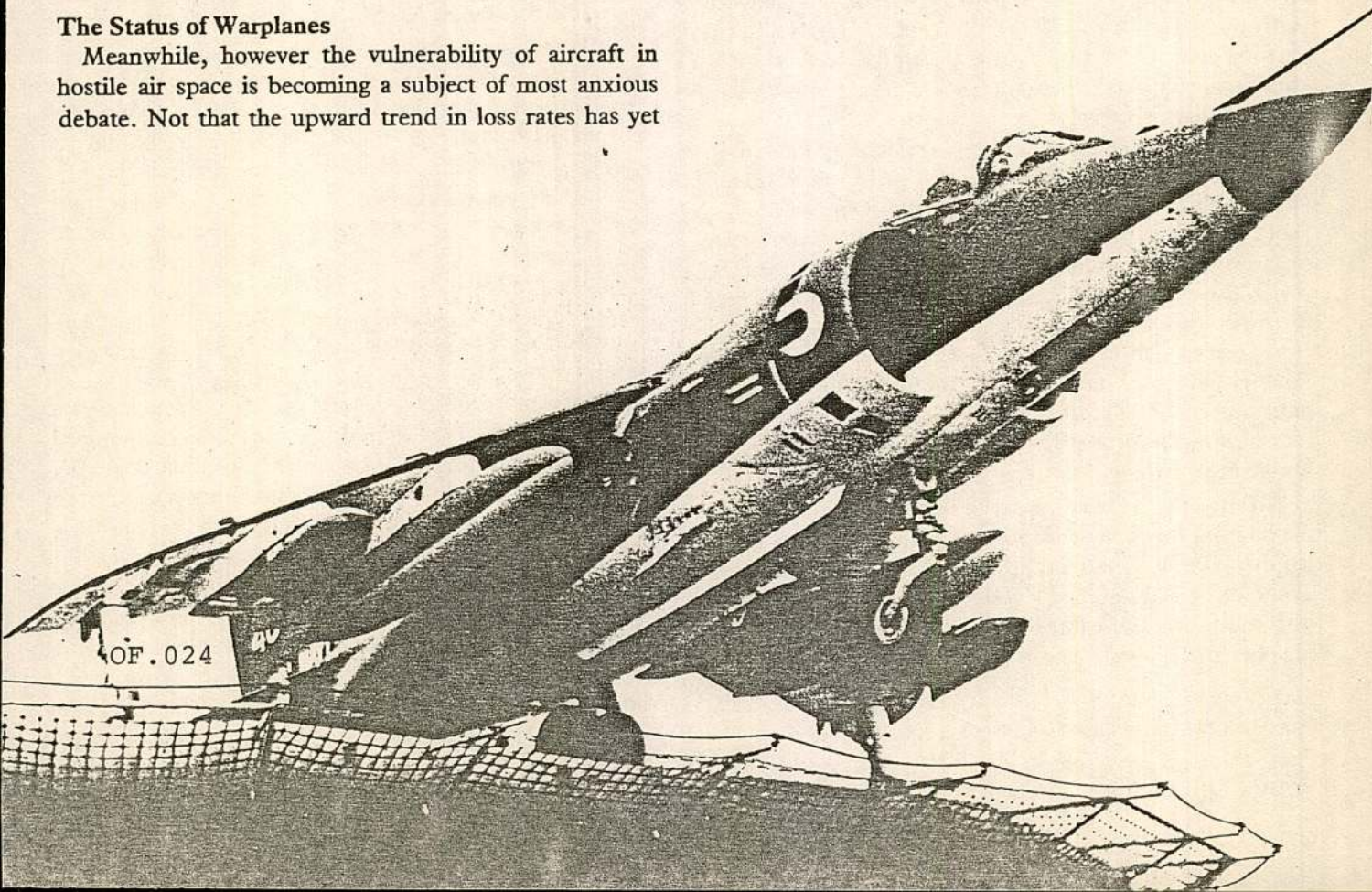
Maybe the mere fear of such attacks helped keep the Argentine air force dispersed more in depth than it might otherwise have preferred. But while a constraint of this sort may have important consequences, it is hardly the same as having to endure, on one's established bases, actual attrition and disruption. Contemporary commentary and doctrine lay great stress on this as perhaps the surest route to air superiority, in the future as so often in the past.

## The Status of Warplanes

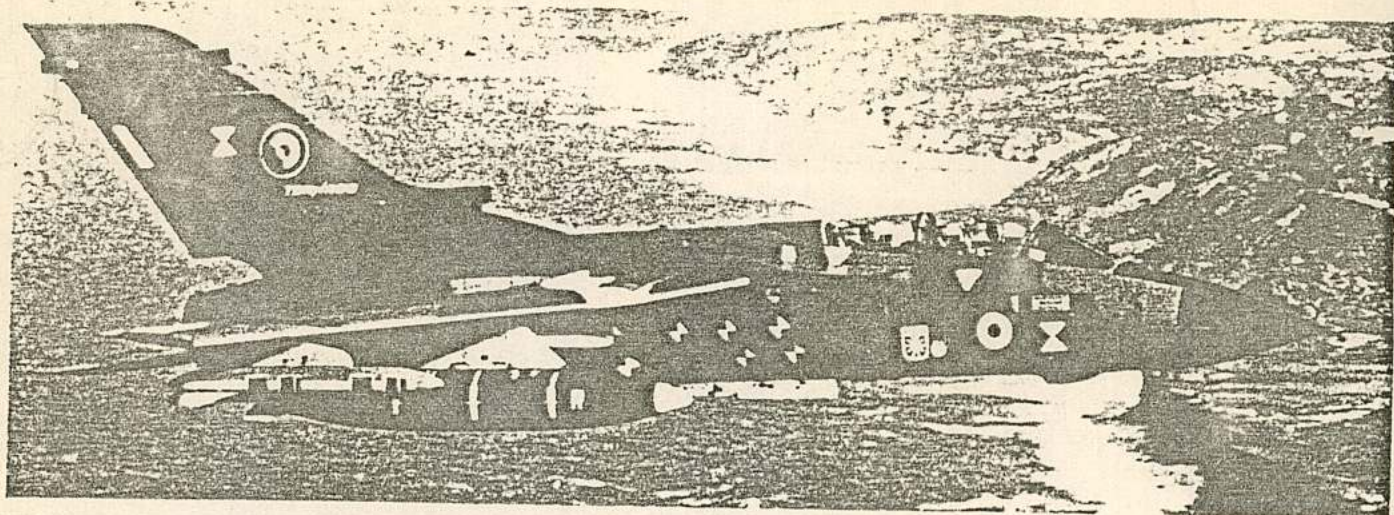
Meanwhile, however the vulnerability of aircraft in hostile air space is becoming a subject of most anxious debate. Not that the upward trend in loss rates has yet

been anything like as pronounced as is sometimes supposed. Thus during the last year or so of World War Two, the levels of attrition sustained over time by air fleets entering enemy skies ranged from what one might call a representative minimum of, say, one per cent per raid to a representative maximum of perhaps 30. What the level was in a given situation would depend on factors such as (a) the numerical balance locally obtaining between air attack and air defence, (b) the density of the defences, (c) the scope for surprise and (d) the relative states of technology and, above all, of electronics. Needless to say, losses towards the upper end of the spread just cited were mostly suffered, over either land or sea, by the air arms then in marked decline, those of Nazi Germany and of Imperial Japan.

*Harrier VSTOL inflicted high attrition on Argentine aircraft in the Falklands.*







*Will there be sufficient Tornado aircraft to inflict high losses on hostile air fleets entering Western European Air Space?*

By the start of this decade, that profile of probability may have altered little. In other words, the manned aircraft may have suffered less than some other instruments of war (including certain types of surface ship) from the great advances in firepower already under way. On the other hand, aircraft were making a massive contribution to those advances. Take, for instance, a strike fighter that has figured prominently in the maritime environment — the Phantom. Its maximum warload weighs much the same as did those of the four-engined bombers of 40 years ago; and, ton for ton, it can be far more destructive.

#### **A Vulnerability Threshold**

What may now be in train, however, is a sharp general rise in the rates of loss experienced by air fleets operating above well-defended land or water. For rather abrupt shifts are taking place in the balance of advantage between intruding warplanes and (a) interceptor aircraft and (b) surface-to-air weapons. Each shift has specific significance apropos the air defence of naval task forces or, for that matter, convoys.

Central to the first mentioned is a major leap forward in the ability to shoot down from above intruders travelling very fast yet very low. Improvements in Doppler search-radar and in missile ordnance have given various interceptor aircraft (among them the MiG-23 and the MiG-25) a much better chance of engaging such targets across long distances and on a downward slant. Thus the two-seat version of the MiG-25 has been seen attacking low-flying drone aircraft with its AA-9 missile from altitudes of 20,000 feet or so. In one case, presumptively out at sea, the drone was well below 200 feet at a slant range of 20 kilometres.<sup>1</sup>

Meanwhile, however, a similar mix of technologies is facilitating air-to-air engagement at low level and quite short range. Furthermore, the peculiar agility of Vertical Take-Off and Landing (VTOL) machines lends them to this mode; and, of course, VTOL is also well adapted to dispersed deployment, not least on a whole variety of ships.

A pointer in this direction is, in fact, afforded by the remarkable successes of Harrier 'jump-jets' shielding the Falklands Task Force. But there is also a strong prospect of a similar role being assumed, in due course, by the other VTOL genre: the helicopter. After all, there has lately been no little discussion of the threat posed to NATO helicopters by the Mi-24 — the Soviet helicopter gunship now deployed extensively in Europe. So there may be no good reason why this kind of air-to-air capability should not be so developed as to be usable against monoplanes, in the maritime environment as well as elsewhere. Thoughts along these lines are encouraged by the gains continually being made in respect of the responsiveness of air-to-air ordnance.

#### **Surface-to-Air Defence**

Likewise, surface-to-air defence is passing through a veritable threshold. As things have been till recently, the length of time a plane coming in fast and low spends within sight of a point on the surface has characteristically been a fraction too short to allow of a properly controlled engagement. However, the reactiveness and flexibility of surface-based weapons (be they guns or missile launchers) is improving constantly. On the other hand, the time spent over the target and its environs could not be cut much more, as a general rule, without precluding the effective participation of the aircrew in the selection and acquisition of targets, yet these tasks are supposed to constitute a prime justification for having aircraft manned at all.

What is more, it does seem that the consequent increase in intruder vulnerability must be at its most pronounced over broad and flattish surfaces: the open sea being the most obvious and general case in point. Twenty years or so ago, breadth and flatness meant — first and foremost — that an intruder could approach exceptionally low yet still very fast, considerably assisted the while by a tendency for the land or water immediately below to interfere with radar scanning by the surface-to-air batteries and also with the flight of any missiles they released. Now the chief connotation is that the intruder is above the horizon, and therefore exposed to Doppler radar and other modern sensors, across a much greater distance. Suffice to add

<sup>1</sup> Aviation Week and Space Technology Vol 114 No 11, March 16, 1981 p56.



that, in assessing the naval-air battles in the Falkland Sound and San Carlos bay, it is important to remember that these were waters hemmed in by rising land.

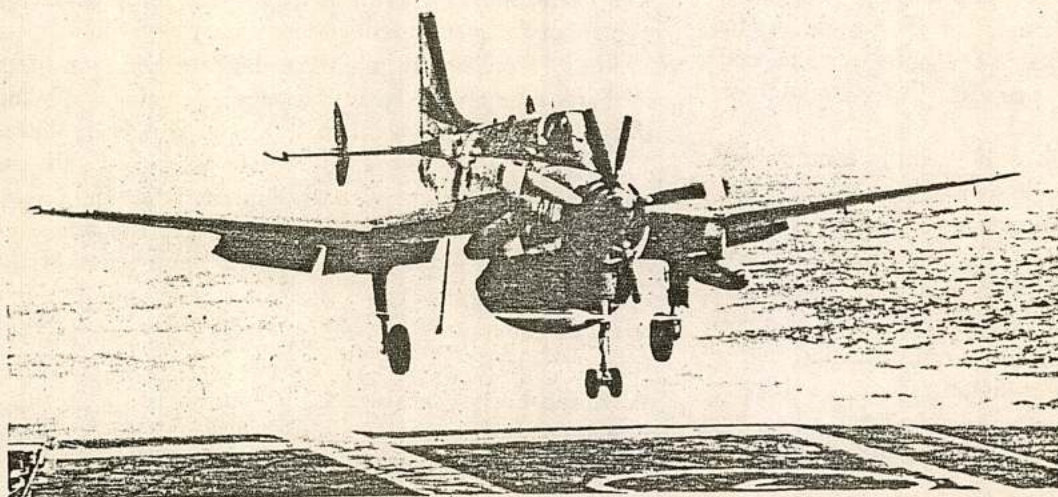
Over and beyond which, warplanes can be susceptible (as the Falklands experience reminds us) to 'walls of fire' from light automatic guns trained along more or less fixed lines from weather decks or wherever. Nor should anybody really be surprised. After all, it is by no means unknown for the metal skin of such machines to be but one or two millimetres thick around the fuselage; and for even that enveloping the wing to be much less than a centimetre.

Admittedly a skin will be backed by a succession of stringers or stiffeners, each of which might be at least two centimetres thick. Alternatively, the basic thickness may be well above the figures just cited by virtue of much or all of the surface in question being carved from a solid block. Yet even allowing for these caveats and for the selective deployment of armour plate, this much can be said. On the average, several hundred rounds have to be fired from heavy machine-guns or light cannon to bring a tactical warplane down. But on occasion, far fewer may suffice.

while large fleet carriers may be difficult to sink, it is not so difficult to transform them — for all immediate purposes — into liabilities rather than assets. Here one calls to mind only too readily the purely accidental explosion of several bombs which occurred in the USS *Forrestal* during one of her patrols off Vietnam. It claimed 129 lives plus 57 aircraft destroyed or badly damaged; and the ship was all but totally inoperable for several hours.

A further consideration is that ships can prove the most natural of homing devices; and are likewise prone to ready detection by various modes of reconnaissance. Nevertheless, warships still have, even when at sea, significant scope for camouflage as well as for other forms of concealment and deception. The degradation by bad weather of optical and, in some measure, radar surveillance can be exploited. So can electronic jamming and physical manoeuvre. So, of course, can the use of radar reflectors to obscure which of the ships in company are the biggest.

Above all, clouds of chaff can serve to screen ships more readily than planes. This is mainly because the differential movement between the chaff and its parent craft is likely



*The Falklands showed clearly the value of, and need for, AEW. Acting alone as radar pickets ships are vulnerable — a lesson learnt during World War II in the Pacific. AEW in the future is a role that might be undertaken by the helicopter, instead of aircraft like the British Fairey Gannet retired some three years ago.*

Put all these considerations together and one concludes that, when the numerical and qualitative aspects are tolerably favourable to the defence, the attrition rates registered against echelons of aircraft entering interweaving envelopes of maritime air defence may not infrequently approach the 60 or 70 per cent often indicated in idealised field tests against relatively co-operative drones. It is a conclusion subject only to the qualification that the defence may perform far below the optimum when taken by tactical surprise. Both the main judgment and its rider do gain some support from the Falklands war, even allowing for the host of special factors.

### The Air-Sea Balance

What then of a disposition on the part of the analysts, discernible these 30 years and more, to make the maritime sphere something of an exception when doubt is being cast on the future viability of manned aircraft offensive operations? Inevitably, the answer lies partly in the susceptibility of modern warships to disablement. Thus

to be far less in the former case. Sometimes, too, the motion of sea waves may be vigorous enough to confuse.

### Coherence or Chaos?

But here one enters upon an issue that permeates the burgeoning debate about the electronic revolution in military science. The first assumption tends to be that it must make the management of war more informed and coherent. In practice, however, these connotations may be less evident in the face of attrition, jamming and deception. Nor may whatever gains are registered in data handling be sufficient to offset the accelerating dynamic of war.

Air defence is, in fact, a sphere in which the divergence in perception can be especially acute. Thus there is a school of optimists keen to hold out the prospect that the response to even a major incursion can be carefully co-ordinated, probably with Airborne Early Warning (AEW) aircraft playing a salient role. Correspondingly, the fighter planes are seen as systematically engaging multiple targets across extended distances. It is a view epitomized by the



PHOENIX missile system available to the several hundred F-14 Tomcat fighters the USN now has in service. For this combination of plane and weapon has brought down a simulated intruder across a range of no less than 175 kilometres.

But an alternative interpretation is one in which an electronic 'fog of war' necessitates engagement at much closer quarters, albeit with a much more clear-cut separation than the optimists would ever deem necessary between the volumes of sky the interceptors are patrolling and those which surface-to-air weapons are covering.

Not that close combat implies 'classic' dogfights. Even historically, they have assumed more prominence in romance than in reality. Instead, it means a *melée*: a struggle in which the emphasis is on opportunistic engagement and in which machines as adroit as the Harrier are at a premium.

### Identification Friend or Foe

In favour of the optimists in the maritime environment is that (even allowing for wave motion; and, more particularly, for pronounced humidity and thermal ducts, at lower altitudes and in certain stable kinds of weather) natural interference with radar reception tends to be least prevalent at sea. But in favour of the pessimists in any *milieu* is the difficulty of determining the allegiance of aircraft with adequate assurance and perhaps at extended range.

All else apart, the concept of the Identification Friend or Foe (IFF) automatic transponder is much where it was left in 1945. A radar operator (either surface-based or airborne) sees on his scope an unknown aircraft. So he interrogates it probably with a special IFF transceiver. Hopefully, a transponder on board the said machine will automatically give a pre-arranged reply. If not, active defence may be set in motion though, in some maritime situations in particular, there is always the big complication that a machine not responding may be neutral.

Alas, a wide gap regularly appears between theory and reality. On account of IFF shortcomings, several Israeli and maybe dozens of Arab aircraft were lost in the crowded Golan sector during the 1973 war. According to certain Israelis, indeed, no fewer than 20 Iraqi planes were destroyed by their own side in a single day.<sup>2</sup>

Meanwhile, 'Vietnam' was highlighting a persistent US failure to devise IFF with an operational reliability much in excess of 50 per cent.<sup>3</sup> The standard rule therefore adopted — 'positive visual identification' before opening fire — could surely only be viable in situations in which adversary aircraft were decidedly in a minority.

Though nothing appears to have been published about Soviet proficiency with IFF, the presumption must be that it does not surpass the West's. Meanwhile the systems thus far in service with NATO aircraft and naval vessels are tied to operating techniques 'that could easily cause self — and mutual — jamming in a hostile environment'.<sup>4</sup>

Yet no less to be reckoned with is adversary jamming and simulation. Witness the way in which, during the Allied bombing of Nazi Germany, the Luftwaffe anti-aircraft command learned how to activate the

transponders of RAF Lancasters at slant ranges in excess of 100 kilometres. It may be pertinent to add that, in the benign environment of civil air traffic control, even the latest transponder links fail to work about one time in 25.

Ever since 1969, NATO has been groping towards an IFF common programme; and now the hope is that this will yield its first tangible results around the turn of this decade. Reportedly, however, the US specialists concerned want the specification to include having the IFF processors, both on the surface and in the air, incorporate in their data flow much background information about friendly and adversary dispositions. However, their European counterparts consider it vital to concentrate on the improvement of IFF as strictly defined.

Nor is there much hope of an early breakthrough via an unorthodox route. One that could, in principle, be especially relevant to the operation of naval task forces reliant on a limited number of aircraft operating from their own small carrier(s) is automatic voice recognition. Certain commercial devices now becoming available in Japan can cope with a field of several users restricting themselves to a vocabulary of, say, 100 words. However, there is no sign as yet of this facility being applied to the control of air or sea traffic, be it military or civilian.

Another possibility might be the determination of an aircrafts type on the basis of a detailed image of it being obtained by electromagnetic scanning. However, that is likely to require the high definition associated with the shorter wave transmissions: millimetric radar and lasers. But because attenuation on passage through the atmosphere is likely to be high in those parts of the spectrum, the range is liable effectively to be limited to a very few kilometres.

### Airborne Early Warning

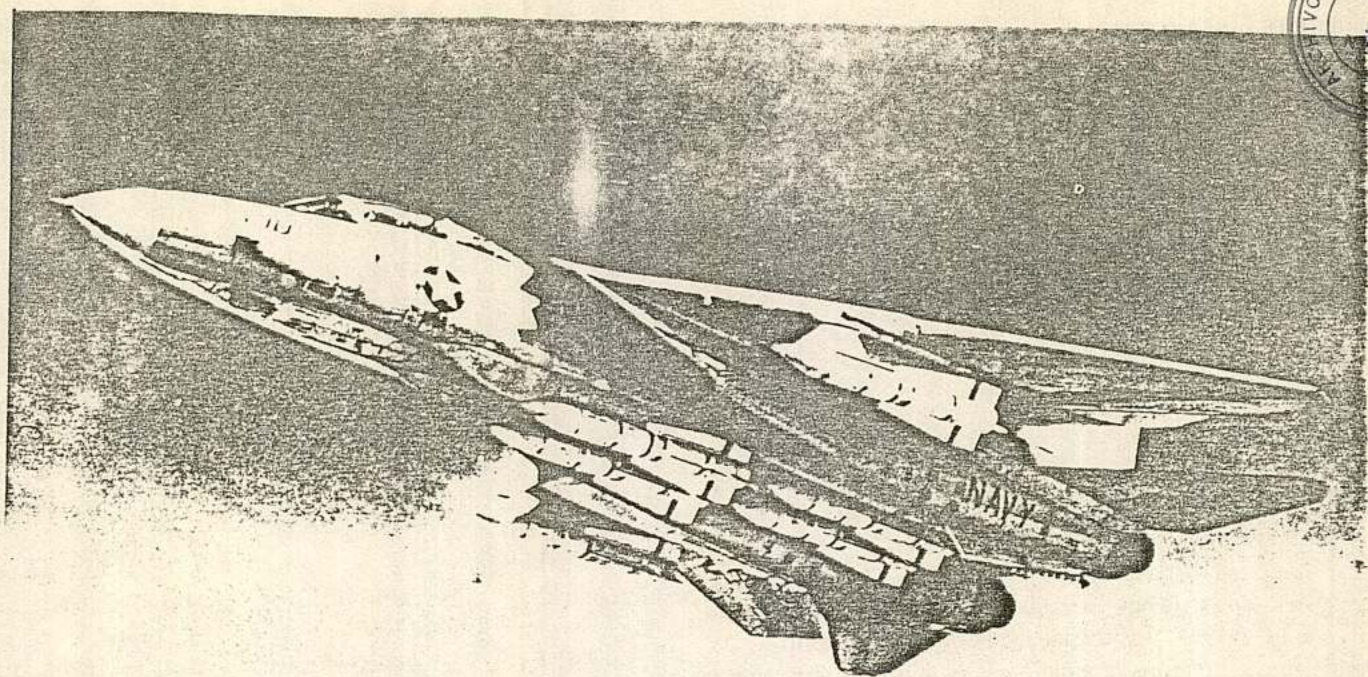
The manifest intractability of the IFF problem supports the view that the *melée* interpretation of future air combat could often prove the more valid one at sea, certainly when naval forces are deployed in restricted waters and or/face threats from various directions. Over and beyond which, it lends weight to the contention that the proper management of air defence must rest heavily on the detection and assessment of air attacks as close as possible to their points of origin: in other words, identifying them for what they are in good time and on the basis of where they are coming from. Moreover, this imperative is underlined by rules of first engagement which in their turn rest, inevitably but dangerously, on arbitrary correlations between the dispositions of prospective adversaries and the risk of early hostilities. So is it by the ascendant importance of surprise attack in Soviet and, to some extent, Western doctrine. So is it by the probability that air attacks by night against surface

<sup>2</sup> Martin Van Creveld *Military Lessons of the Yom Kippur War: Historical Perspectives Washington Papers Vol 3 No 24* (Sage Publications, Beverly Hill, 1975) p31.

<sup>3</sup> Julien S Lake 'Friend or Foe: You'd Better Know' *Defense and Foreign Affairs Vol 6 No 8* 1978 pp39-40.

<sup>4</sup> 'NATO Identification System' *International Defense Review Vol 14 No 2* 1981 pp175-77.





*Ton for ton today's aircraft's warload is far more destructive than that of 40 years ago. The PHOENIX armed Tomcat is capable of destroying a target at a range of 175km.*

vessels will become progressively more feasible as time goes by. So is it, too, by similar IFF problems apropos light surface forces.

Unfortunately, however, the provision of 'early warning' by means of special picket ships is far from easy, especially when the air threat is preponderantly presented at low altitude. From a radar antenna located in the mast of a frigate, it will normally be less than 20 kilometres to the geodetic horizon. To which must be added the truism that, when acting as a forward picket, such a vessel itself stands terribly exposed to attack: the truism demonstrated all too well during the *Kamikaze* campaign against Allied task forces in the Pacific in 1944-45.

Indeed, it was within several years of this episode that the American and British navies spearheaded the introduction into the world of warfare of a succession of specialist Airborne Early Warning (AEW) aircraft. The planes in question were adapted Skyraiders.

As regards the future, AEW is yet another sphere in which a prominent role could eventually be played either by pure helicopters or else by hybrid rotorcraft-cum-monoplane designs. The steady fall in the levels of mechanical vibration within helicopters is auspicious here. So is the miniaturisation trend in electronics.

Among the exotic possibilities already canvassed, in fact, is that of using an in-line pair of rotor blades to serve as a radar antenna of quite exceptional aperture, in a horizontal direction at any rate. This attribute would be conducive to (a) a small angle of beam divergence and (b) the collection of a relatively strong echo. Still, a limiting factor must be blade rotation rates of the order of a 1,000 degrees per second. For this could cause unacceptable blurring of the returns across ranges much in excess of, say, 120 kilometres.

At all events, an early warning screen rather wide and thicker, in relation to the given threat, than was maintained around the Falklands could go far toward ensuring that the sustained rate of successful interception of aircraft entering a maritime defence zone was not too far below the optimum rate. And as noted above, the latter may soon mean two in every three, as and when the planes in question are endeavouring to penetrate deep into overlapping envelopes of defensive fire coming from systems of adequate number and variety and proven excellence. Besides, even if 25 per cent, say, is taken as a more representative figure, that would still mean barely 40 per cent of an air arm surviving a day in which three sorties were launched; and many of those survivors would be damaged.

### Toss Bombing

Evidently then, it is becoming crucial to even the minimal viability of air attacks on navies that the aircraft involved have the option of releasing their ordnance from positions well short of their targets. Hence the interest various air forces and naval air arms have evinced, this last quarter of the century, in 'toss bombing': using the sheer momentum of a fast approach to hurl a bomb into a forward trajectory, this as the parent aircraft climbs into a backward loop in order to return whence it came.

In a test recently carried out (apparently overland), by a Tornado, four out of seven 454-kg bombs released between 5 and 6.5 kilometres out landed within 10 metres of a designated aiming point.<sup>5</sup> Over the sea, rather less precision may normally be obtainable at this stage. Still,

<sup>5</sup> Flight International Vol 119 No 3754 April 18, 1981 p110.



this difference should diminish as navigational aids improve.

Besides, a toss-bomb might be set to explode, say, 30 metres above its target, thereby achieving a spread effect. Used thus, it would be unlikely to sink even a small combat vessel. But what it could well do is injure enough of the crew, and sufficiently damage radar scanners and other external fittings, to cripple the vessel in question. Nuclear delivery by the toss method has also been envisaged.

#### Stand-Off Release

Still, toss-bombing is already seen as decidedly subsidiary to the 'stand-off' release of self-propelled weapons: rockets such as EXOCET or cruise missiles such as HARPOON. For one thing, the general balance of advantage between these genre and that of surface-to-air weapons tends to be different at sea from what obtains over land. At sea, it is the surface target (*ie* the ship) that tends to be the more conspicuous, notwithstanding what was said above about means of concealment. Furthermore, it will constitute a dense concentration of valuable men and material; and may play a most distinctive role in preserving the balance and effectiveness of whatever fleet it is part of.

Besides, it may not infrequently be practicable to release a rocket or cruise-missile from well below the horizon. Then again, as and when aircraft and their objectives are in 'line of sight', the effective ranges of the surface-to-air systems often compare unfavourably with that of the air-launched 'stand-off' weapons.

With anti-aircraft guns, this is merely a function of the rapid retardation of a shell or bullet in flight. In the case of surface-to-air missiles, the explanation is several-fold. A salient part is that a SAM has to sustain a high supersonic speed to stand much chance of catching a tactical warplane: a stipulation which (a) means high drag and (b) makes it less feasible to rely on an air-breathing turbojet. Then again, external guidance is liable to play a larger part when a missile is pursuing a fast-moving aircraft. The law of gravity may also give the air-launched system some extra edge.

So it is that the USSR, for instance, has several types of air-to-surface missiles in service with ranges in the 200 to 600 kilometre bracket. Yet none of the SAM systems installed on USN ships, for instance, can much exceed 100 kilometres. Nor should one forget that an aircraft retreating at perhaps supersonic speeds can all too easily add half as much again to the distance a SAM has to travel to hit it. Nor that systems like EXOCET and HARPOON do not have to be launched from aircraft at all.

#### Anti-Missile Defence

Considerations such as these amount to a compelling argument in favour of having monoplanes available for the forward engagement of whatever platforms anti-ship missiles are being dispatched from. But they also militate in favour of the interception of the missiles themselves receiving more priority in doctrine and practice than has been the case so far.

Nor is this a vain quest. After all, it is over 20 years since the US Army first shot down one of its HONEST JOHN surface-to-surface missiles (range: 35km), this by means of a HAWK SAM. Lately, the Royal Navy's SEAWOLF has been experimentally fired against artillery shells. In addition, several Argentinian EXOCETs were either destroyed or diverted by the Falkland task force.

All the same, this challenge will not diminish over time. The flight paths of offensive missiles will generally become a lot flatter than are some of the current ones; and they may also get a good deal less predictable. In addition, certain of them may approach much faster: perhaps at several times the speed of sound as opposed to the transonic (Mach 1.0) velocity achieved by EXOCET and HARPOON or, for that matter, the Mach 1.5 typical of an artillery shell in the terminal phase of its flight.

Nevertheless, there is little doubt that a mix of defensive systems could achieve appreciable attrition. Perhaps an oblique indication of the possibilities is afforded by US analyses of a strategic strike involving TOMAHAWK cruise missiles against the USSR, analyses that seem very consistently to show that roughly half such a cruise-missile echelon would be destroyed *en route*.<sup>6</sup>

Granted, some of the missiles that might be directed against a task force or convoy could have a tactical performance superior to that of the TOMAHAWK. On the other hand, a naval perimeter might be easier to screen than is the Soviet Heartland, while individual ships may be able to afford themselves a goodly measure of point defence. Nor will obscuration by terrain, vegetation *etc* be a problem as a rule. All of which is just as well because anti-missile defence at sea may need to become well over 50 per cent effective.

#### The Outlook

Undeniably then, air defence in the maritime situation is entering a new era, an era of many uncertainties. Salient among them is how far aircraft, be they monoplanes or rotorcraft, can contribute to anti-missile defence. So too, is the question of how readily a force perimeter that is optimally extended for anti-missile defence can be reconciled with the requirement of anti-aircraft, anti-submarine defence *etc*. One sense that anti-missile perimeters might tend to be shorter than would be suitable for other purposes.

Still, certain inferences can be already drawn. One is that it is falsely perfectionist to believe that any perimeter can be treated as entirely inviolable in any respect. Another is that the helicopter or helicopter hybrid is uniquely adaptable. A third is that, for close-in air defence against plane or missile, the rapid-firing gun will occupy a bigger place than many would have thought likely, say, a decade or two ago.

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<sup>6</sup> See eg *The Economist* October 24, 1981.





ESCUELA DE GUERRA NAVAL

TACTICA

HARD LESSONS FROM THE SOUTH ATLANTIC

(Military Technology 6/82)









HMS SHEFFIELD, set ablaze by one AM.39 EXOCET air-to-surface missile, receives assistance from a Type 21 frigate. Note that the fire pumps are not operating onboard SHEFFIELD, as she was left without electricity and power for her firefighting equipment.

Ezio Bonsignore

## Hard lessons from the South Atlantic

The British/Argentine conflict for the Falkland/Malvinas islands has witnessed the first large-scale naval encounters with modern weaponry since WW2. Air-to-surface anti-ship missiles, anti-aircraft/anti-missile missiles, homing torpedoes and many other advanced weapon systems and devices were used in actual combat for the first time; and for the first time since many years, a large-scale amphibious assault has been carried out under very strong enemy air threat.

The strategic, tactical and technological lessons taught by this conflict — lessons which have been bitter and costly for both Great Britain and Argentina — will provide arguments for reflection and discussion for many years to come, as soon as more details about the actual operations become available. The British official report — due in October, this year — will clarify many points which are still uncertain. However, it is already possible to point out some very important and evident lessons.

As a first consideration, it has become evident beyond any possible discussion that organic, shipborne air power is the key to success in any major naval operation carried out outside the range of own land-based aircraft and within range of enemy land-based aircraft. Had INVINCIBLE and HERMES not been available, the reconquest of the Falklands (and indeed even an efficient blockade of the archipelago) would have been utterly impossible. It has been pointed out that had the Argentines waited for

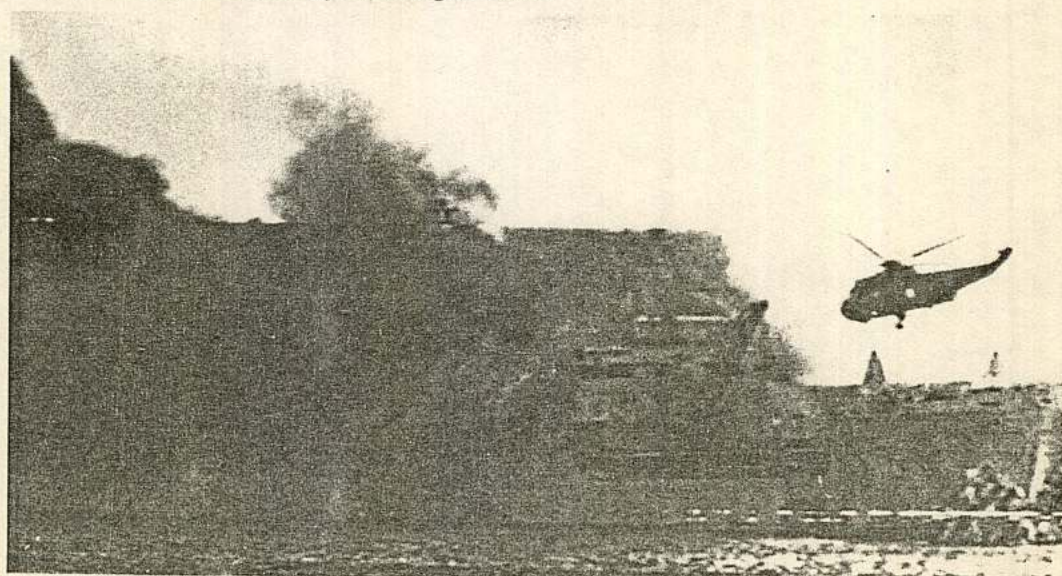
another year — that is, until INVINCIBLE was transferred to Australia and HERMES decommissioned, leaving only ILLUSTRIOUS in service — matters

could well have taken a different course.

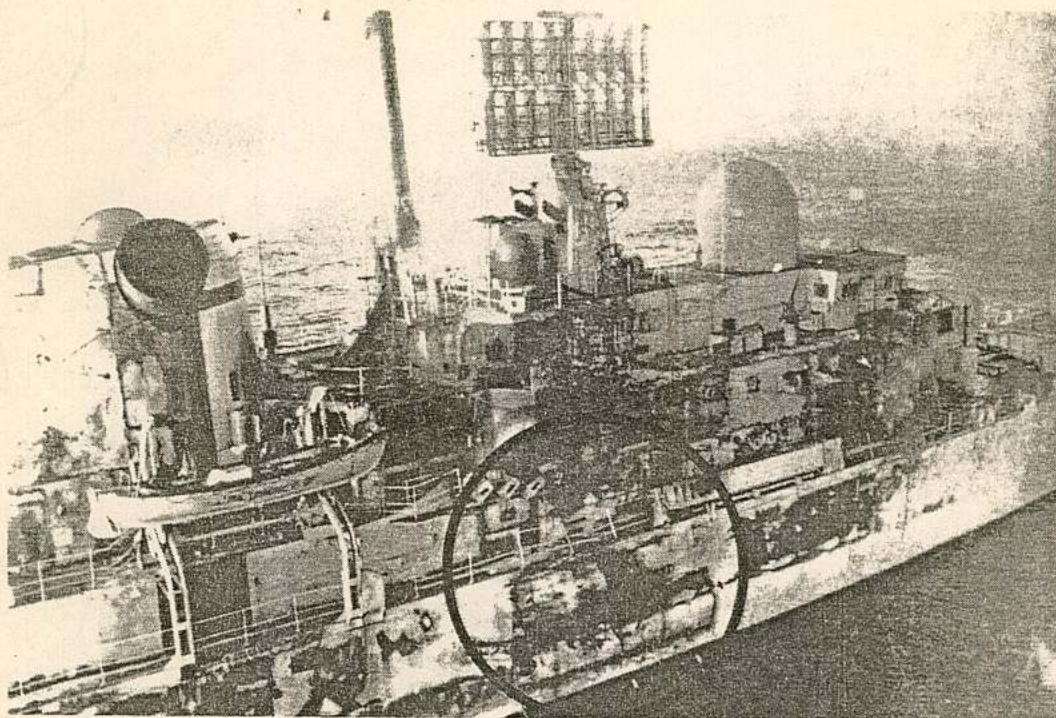
It has been once again demonstrated that aircraft carriers (even if small, even if V/

STOL-capable only) must be the nucleus of any navy whose operational responsibility extends well outside the territorial waters, i.e. outside the only area in which land-based aircraft can actually ensure an efficient air cover. This applies not only to power projection roles 8,000 miles away (as it was the case in the Falklands). Espe-

The British landing ship SIR GALAHAD is set ablaze by an attack of Argentine aircraft carrying "iron" bombs and rockets. The attack on SIR GALAHAD and SIR TRISTRAM, which resulted in a heavy loss of lives, was possible because of the weaknesses in the British early warning airborne systems and long-range interceptor aircraft. As a result, the Argentine planes were able to come very close to the ship without being detected by exploiting hill cover.







Detail of the central section of HMS SHEFFIELD abandoned after the fire had been extinguished. The circle marks the entrance hole of the missile. Note that the superstructures have not melted (they were steel, not aluminium/magnesium alloy) and that there is no trace of destruction apart from the scars left by the fire. This last point seems to suggest that the missile warhead did not detonate, and that the vessel was wrecked only by the fire. She was later scuttled by British demolition charges (or, according to other sources, she sank while in tow).

cially in restricted basins, it is sufficient to sail 200 or 300 miles from own coasts to enter deep into operational range of hostile land-based aircraft, which can be countered only if the permanent air cover of shipborne aviation is available.

The importance of shipborne air power has been demonstrated at the Falklands also in the negative sense, i.e. by its lack. After the British establishment of the 12 nm blockade along the Argentinian coast the Argentine fleet never left home waters; this was due to psychological reasons (the heavy losses in the sinking of GENERAL BELGRANO), political reasons, operational reasons (the threatening presence of British SSNs, against which the Argentine fleet had

no defence) and technological reasons, since the carrier 25 DE MAYO was caught just in the middle of a conversion crisis with the SKYHAWKS grounded and only 5-6 SUPER ETENDARDS delivered of the 14 ordered just to replace the SKYHAWKS. As a result, the only problem Adm. Woodward was facing was to position his task force in order to protect the landing operations while minimizing exposure to air attacks from land-based aircraft. Had the 25 DE MAYO moved with all its SUPER ETENDARDS and a good stock of AM.39s, the British task force could have not started any operation before sinking or disabling her.

As a second important point, it is now evident that combined

naval and air operations are severely hampered without employment of early warning aircraft, and under such conditions are possible only with severe losses. The lack of this type of aircraft was the weakest point of the British Task Force, and forced the British to deploy ships as radar pickets well outside the task force's main nucleus, where they could easily fall prey to Argentine air attacks. Also, the lack of early warning aircraft reduced warning time to extremely short periods.

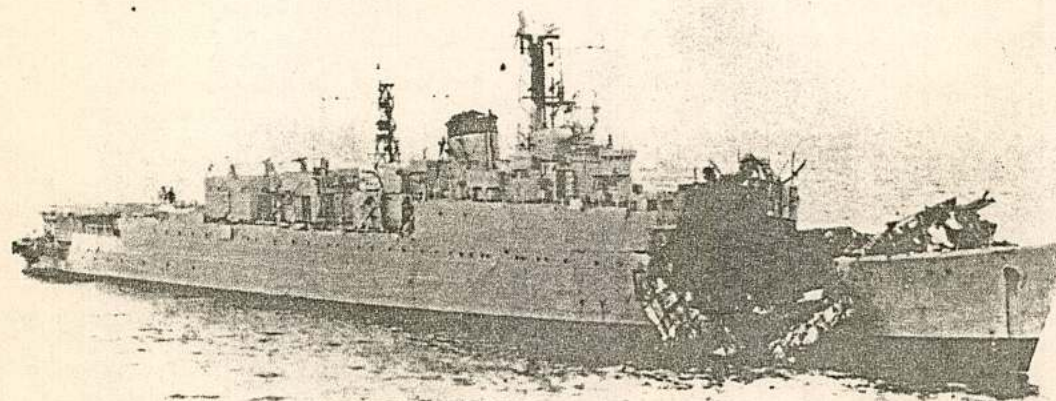
A third consideration is the proof of true operational value of V/STOL aircraft in general and for shipborne use in particular, although the results can be assessed as mixed, in the sense that the V/STOL concept

has confirmed its advantages but also its drawbacks.

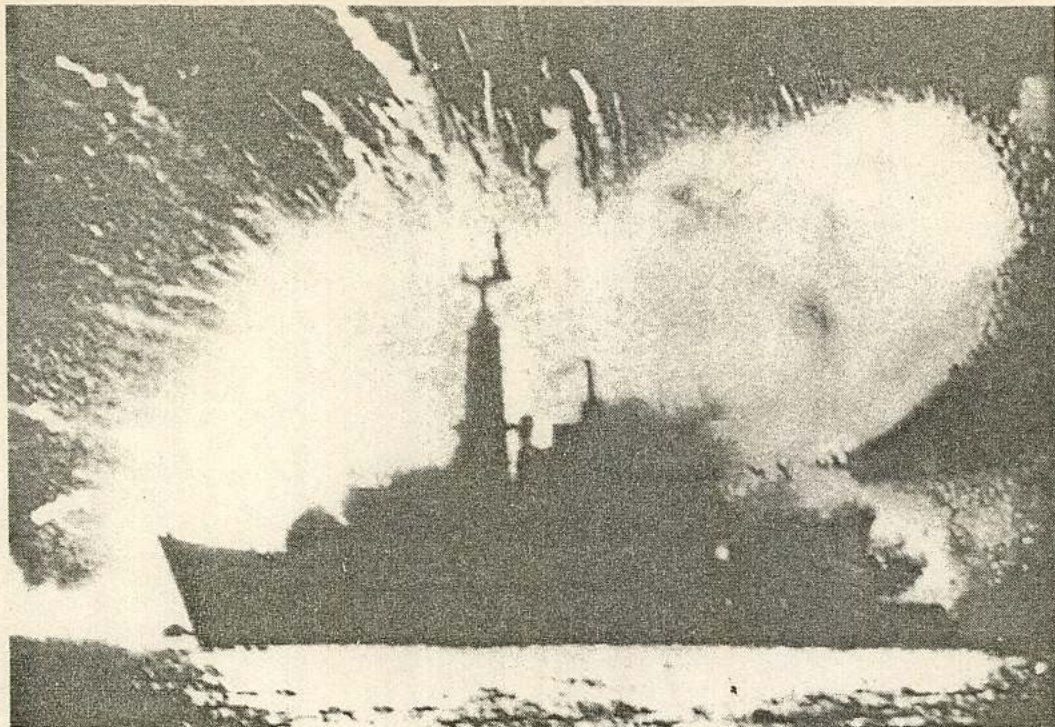
It has been confirmed that the V/STOL aircraft, through use of vectored thrust in flight ("vifing") is a redoubtable dogfighter, perfectly able to engage Mach 2 conventional aircraft. No HARRIER or SEA HARRIER was lost in aerial combat, while British pilots claim a substantial percentage of the 60 or so Argentine aircraft shot down. It is to be remembered however that the Argentine aircraft attacked at the extreme limits of their range, with very little (if any) extra fuel available to go supersonic and/or to engage in manoeuvred combat; in addition, the British had a very important technical advantage in their AIM-9L all-aspect missiles. Also, dogfight requires time and numbers; and while some Argentine aircraft were engaged and shot down by HARRIERS and SEA HARRIERS, others managed to pass through to deliver their bombs. The second weak point of the British task force can be identified just in the lack of an interceptor aircraft armed with medium-range air-to-air missiles such as SPARROW or SKY FLASH.

It has also been confirmed that the V/STOL concept allows reasonably efficient carriers even with contained dimensions. This was, of course, an already well-known point but it has now been demonstrated that such carriers are actually efficient.

That is the kind of damage inflicted on a ship target by an exploding EXOCET missile.







**HMS ANTELOPE explodes on fire when a bomb disposal man tries to defuze an Argentine bomb. The discovery that low-level close air attacks carried out against naval vessels with "iron" bombs or rockets are still possible (at least under certain circumstances) is one of the major tactical surprises of the Falklands conflict.**

On the other hand, the drawbacks so often pointed out by critics of the V/STOL concept — low speed, low range, low payload — have emerged in all their importance. HARRIERs and SEA HARRIERs were never able to ensure a complete air blockade or to put the Port Stanley air strip out of use (Argentine C-130s landed at Port Stanley until the day before the surrender); in addition, their characteristics do not allow long patrol missions (or *far* interception on alarm missions) which would have ensured a really efficient air cover for the task force.

Royal Navy officers have sadly but accurately pointed out that with the "old" ARK ROYAL — with her PHANTOM for air cover, her BUCCANEER for attack, and her GANNET for early warning — things would have been much easier, and many losses could have been avoided.

To sum up, the operations around the Falklands have demonstrated that V/STOL aircraft (and the carriers designed to operate them) are an essential component of a modern medium-sized fleet required to act outside the cover of land-based aircraft; however, and at least at the present stage of V/STOL technology, they cannot be seriously heralded as a true and completely satisfactory alternative to conventional aircraft (providing, of course, that one can pay the bill for a CTOL carrier). Even the decrepit 25

DE MAYO, with her flight component completed as scheduled, would have been (not taking the SSN threat into account) a very serious enemy for the two British V/STOL carriers. It appears consequently that V/STOL carriers are a reasonable concept only for dimensional limits which would not allow a CTOL carrier, that is, up to 18,000-20,000 t.

A point which requires a lot of reflection is the efficiency of modern anti-ship missiles, as "demonstrated" by the sinking of SHEFFIELD and ATLANTIC CONVEYOR (air-launched AM.39 EXOCETs) and the damaging of GLAMORGAN (shore-launched MM.38 EXOCET). In fact, such efficiency had already been conclusively demonstrated in many trials, but it appears as if it were forgotten.

The first direction which requires urgent reconsideration is the current trend in naval construction, i.e. the assumption that even a limited amount of armour is superfluous and the large use of light alloys. It is simply not acceptable that a modern and supposedly well built ship of about 4,000 t such as SHEFFIELD, steaming under war conditions (and hence with waterproof doors and hatches closed down, etc.) should be put out of action and wrecked by a single anti-ship missile. Even worse, close examination of a series of pictures of SHEFFIELD strongly suggests that the mis-

sile warhead did not detonate, and that the ship (despite the fact that she did not have much light alloy in her superstructures) was destroyed only by the fire ignited by the missile's residual fuel. True, there was a lot of bad luck, as the missile hit left SHEFFIELD without electricity and power for her main fire-fighting equipment and cut out internal communications; but even so, losing a warship to a missile which did not even explode is not only not acceptable — it is crazy.

Although not being hit is certainly the best protection, it appears that the addition of a certain amount of armour to the ship's vitals should be reconsidered. Modern armour materials (such as Kevlar or stratified ceramic/plastic) would allow this. In addition, fire-fighting and damage control measures must be reconsidered. Onboard the SHEFFIELD, the fire spread along electronic and electric cables, which run for hundreds of kilometers in any modern warship.

In the same sense, light alloy superstructures are simply suicide, and must disappear from any warship larger than a patrol craft.

It is perhaps too easy to suggest self-evident solutions such as "use armour", improve fire-fighting measures", "dispense with light alloys" without remembering that a modern warship is very much constrained in terms of space and

weight (mainly as far as top weights are concerned) and that it should be — at least in Europe — as small and cheap as possible. Light alloys and no armour are just two ways to cope with these problems. However, the point is that many years of peace have led all of us to forget that Great Admiral Tirpitz was only too right in saying that a warship has to meet three main requirements: first, to stay afloat, second, to stay afloat, and third, to stay afloat.

All this suggests that future European-designed warships should be substantially larger than the present ones, in order to carry the same armament and electronics plus a certain amount of armour on a hull more accurately compartmentalized and able to take at least a certain amount of punishment. The Type 42 destroyers have mainly been designed around the SEA DART surface-to-air area defence missile system. It is now evident that in order to embark this system on a hull with more balanced armament, a couple hundred tons of armour and accurate fire-fighting compartmentalization around 6,500-7,000 t would have been required.

The blame is not to be placed with the Royal Navy or with shipyards' designers, however. One wonders how many of those British critics who are now asking "What's wrong with our ships?" remember that the Type 42s were designed as a scaled-down version of the 7,000 t Type 82 ("too large" and "too costly", of course) and that they had the dubious privilege of being the very first British warships designed with cost as main factor. Ships designed this way are likely to be very much appreciated by the Treasury — but to ask them to stay afloat...? Unfortunately, it appears that exactly the same mistake will occur with the Type 23 frigates.

Also, it is now evident that no warship (unless it is highly expendable) can operate in even medium-level threat areas without an integrated anti-missile system, featuring fully automatic reaction from target identification to fire action, if possible directly interfaced with EW equipment and slaved to search and fire control radars optimized for engagement of very low flying targets.







A landing craft backs out of the flooded "garage" in the stern of the LPD HMS FEARLESS. She and her sister ship INTREPID carried some 600 troops each.

The exact circumstances of the loss of SHEFFIELD are not known at the moment; it is certain however that the ship was not able to pick up either the two Argentine SUPER ETENDARD when they "popped" up to perform the radar search or the missile, which was discovered visually only about 4 seconds before impact (1,300-1,500 m). As SHEFFIELD was on radar picket duties, her main radar was almost certainly emitting, and its lack of performance should consequently carry the blame for the loss of the ship. Recently, British sources have stated that the SHEFFIELD's radar had been switched off in order to allow the ship to talk with London via the SKYNET satellite communication system (which is reportedly disturbed by powerful radar emissions); but this "explanation" is very difficult to accept (Why should any ship in

the task force have talked with London directly, and not through the flagship? And even admitting this point in general, a ship on radar picket duties which switches off its radar in order to communicate no matter what... Is this believable?). Bad radar performance remains the most likely reason for what happened.

But independently from her main radar, SHEFFIELD should in any case have identified both the aircraft and the missile with her ESM systems. Clearly, this did not happen, and it is extremely important to ascertain why.

The magnitude of the problem facing naval planners can be better understood by remembering that the two Argentine aircraft, coming from a direction which was only too easy to foresee, were only a foreshadowing of what a saturation attack with many aircraft com-

ing from different directions would look like.

To sum up this point, it could be said that the concept of larger ships — larger in order to carry their mission armament plus an efficient anti-missile defence, larger in order to be armoured, larger in order to be survivable — has been vindicated.

Taking another point into account, the efficiency of sophisticated weapons such as anti-ship missiles should not blind one to the fact that the guided-missile destroyer COVENTRY, the frigates ARDENT and ANTELOPE, and two landing ships were sunk — and many other vessels damaged — by old, "dumb" free-fall bombs (mainly Mk82 and Mk84 of US surplus) released in low-level close attacks carried out with great courage and determination (one of the Argentine SKYHAWKS attacking

ANTELOPE hit the ship's mast). The discovery that attacks of this kind are still possible and very effective (even if at the price of heavy losses) in our age of high-speed computers and "smart" weaponry has been perhaps the most important tactical lesson of the conflict.

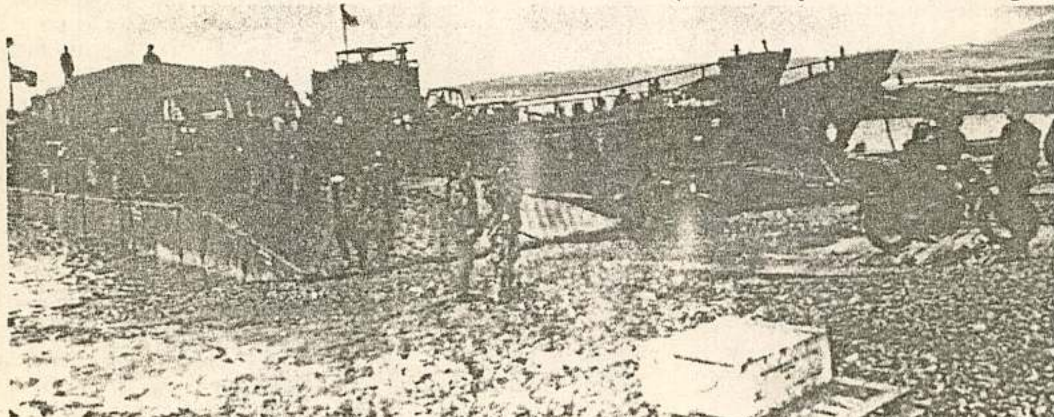
It appears that the Argentines relied on sheer numbers to mount saturation attacks aimed at overwhelming the shipboard AA defences, which in modern vessels are almost invariably designed to counter a threat assumed to be a relatively small number of distant-flying aircraft. This tactic has not worked very well in open waters, but proved deadly efficient when British ships were operating close to shore allowing the Argentine aircraft to exploit ground cover. For instance, COVENTRY was able to shoot down two attacking planes with her two first SEA DART missiles, but the Argentine formation was discovered so close to the ship that the remaining aircraft managed to make their pass and release their bombs before more missiles could be launched.

This seems to require a reappraisal of the shipborne AA defence problem. In order to counter that kind of threat, it is necessary to have a large number of rapid-firing small-range automatic cannons placed at the ship's corners in order to avoid blind arcs of fire. Ideally, such systems should be automatic-reaction systems to be used also for anti-missile defence, but even manually-aimed 20-35 mm weapons would do the job. An alternative solution is two or three multi-cell launchers for fire-and-forget IR homing missiles. It is plainly astonishing to realize that a Type 21 frigate was expected to face the present air threat with two SEACAT launchers and two 20 mm automatic cannons, whereas a WW2 destroyer of the same size had up to 16 40 mm and 12 20 mm automatic cannons. Just as low-level close range air attacks on ships still have a role to play, the same applies to barrage fire.

As such a number of automatic cannon calls for a large number of personnel, a suitable solution could be to prepare the emplacement on board and stockpile the weapons in peacetime, installing them only in wartime.

Troops, vehicles and stores being landed at San Carlos Bay beach head.

(Photo: Petty Officer Peter Holdgate)





ESCUELA DE GUERRA NAVAL

TACTICA

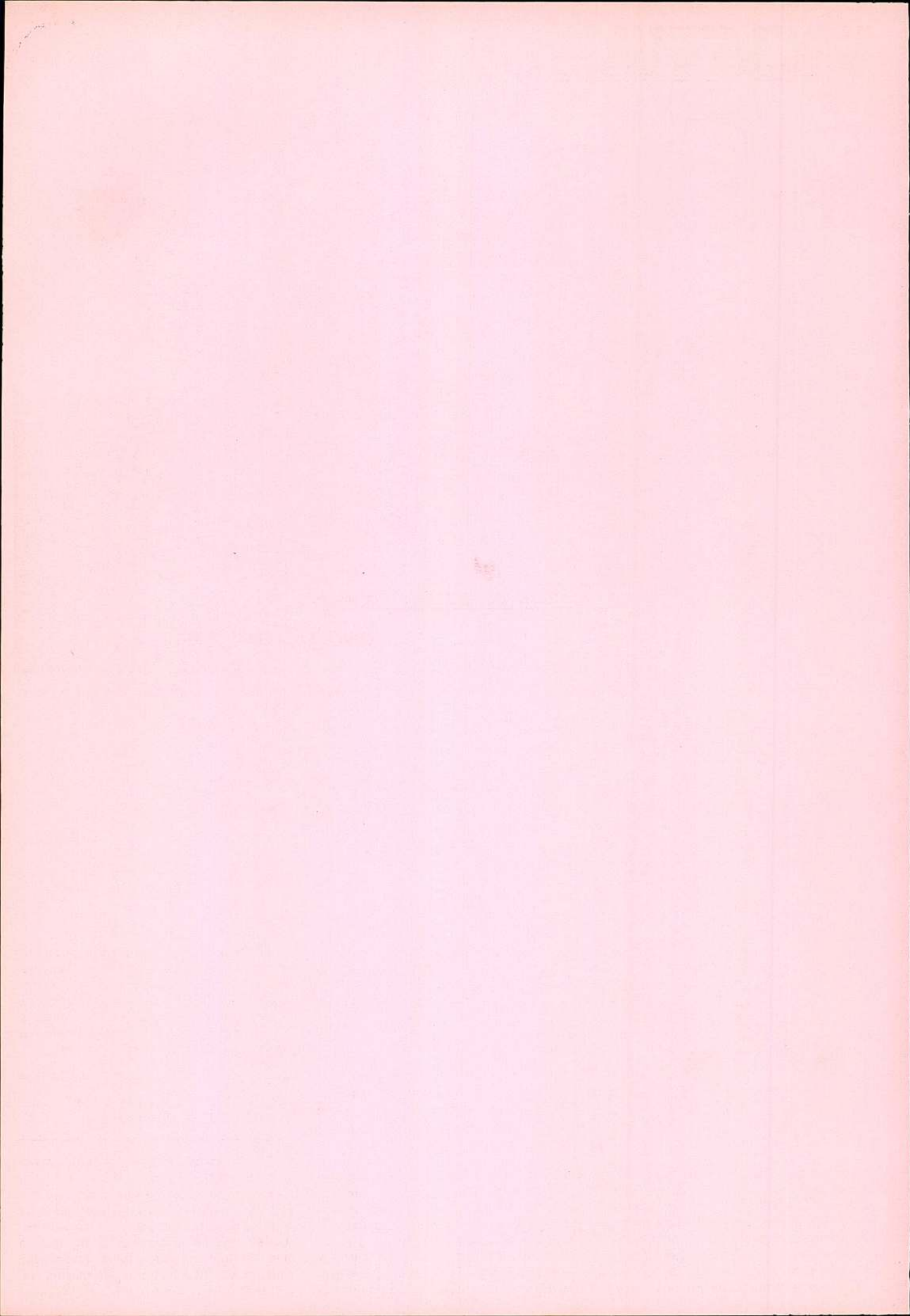


LA GUERRA DEL ATLANTICO SUR

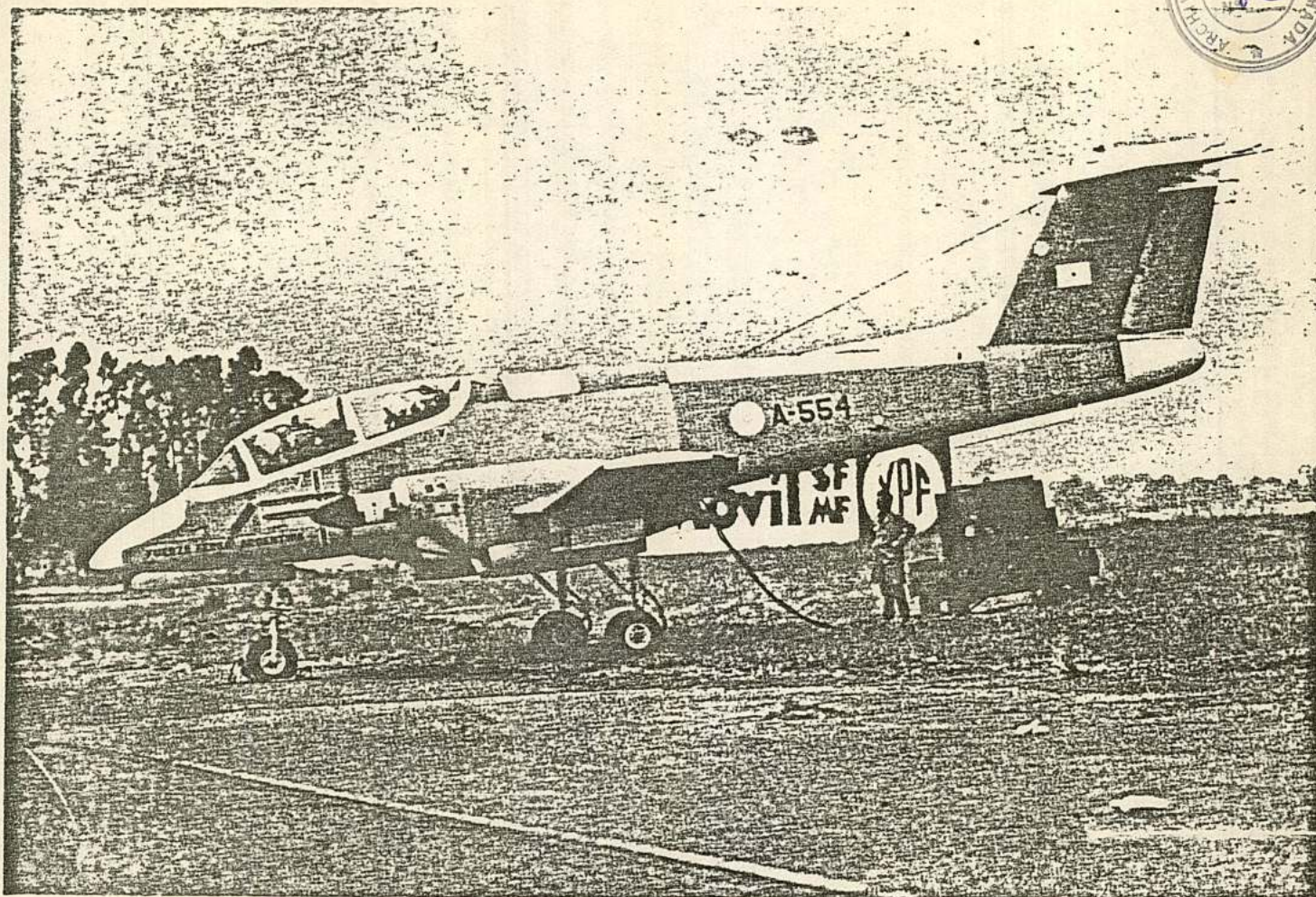
(Defensa SEP. 82)

OF. 026









El IA 58 "Pucará". Hizo más de lo que nunca pudiera haberse imaginado que era capaz de realizar un avión de estas características. (Foto Jorge Figari).

# la GUERRA del ATLANTICO SUR: desarrollo y primeras lecciones

Por Arturo PEREZ-REVERTE

Enviado especial al Teatro de Operaciones.

*El conflicto bélico que ha enfrentado a Argentina y Gran Bretaña, saldado con la victoria de esta última, aporta elementos altamente valiosos a los conceptos de la guerra moderna, especialmente en el plano aeronaval y, más concretamente, en el ámbito de la guerra electrónica. El Atlántico Sur ha sido, durante casi tres meses, campo de experimentación para las armas más avanzadas de que dispone Occidente en guerra convencional, y las experiencias extraídas del desarrollo de las operaciones serán materia de profundo y dilatado análisis durante mucho tiempo. De todas formas, aunque todavía es pronto para establecer conclusiones definitivas, ya que ambas partes en conflicto se encuentran en la fase de evaluación de sus propias acciones, DEFENSA ofrece este mes un primer análisis, elaborado por su enviado especial en el mismo Teatro de Operaciones.*

La guerra por las Malvinas puede ser, en una primera aproximación, dividida en cuatro fases específicas. La primera consiste en el llamado *Operativo Rosario*, el asalto anfibio realizado el 2 de abril a las islas Malvinas por fuerzas argentinas, que puso el archipiélago bajo el control de las Fuerzas Armadas de Buenos Aires,

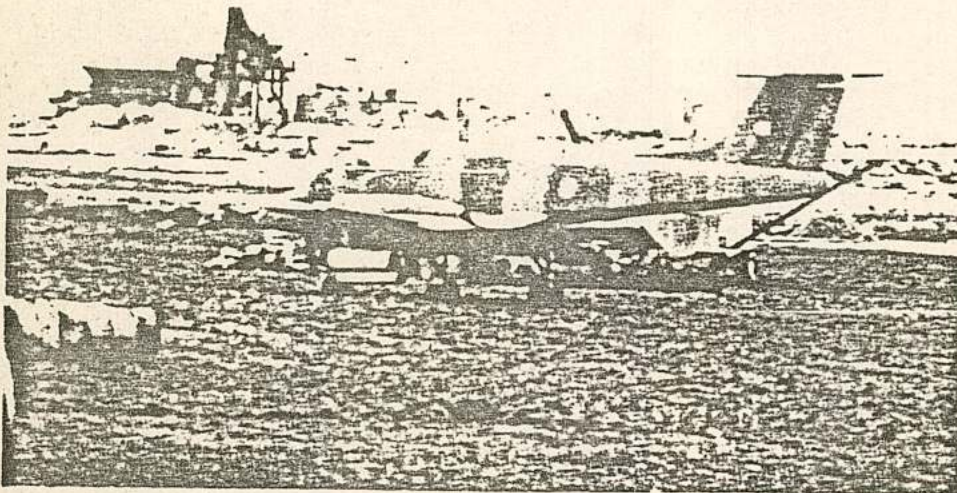
siendo el primer factor militar entre los que desencadenaron la guerra. La segunda fase es la del apresto de las respectivas fuerzas argentinas y británicas para la batalla, con el desplazamiento a las aguas australes de la *Fuerza Operativa* inglesa y la organización de la defensa por Argentina. Una tercera fase, posiblemente la

más espectacular técnicamente, fue la de la guerra aeronaval. Y finalmente, la cuarta fase, eminentemente terrestre, abarca desde el establecimiento de la primera cabeza de playa británica en Malvinas hasta la rendición de las fuerzas defensoras de Puerto Argentino (Port Stanley).

## PRIMERA Y SEGUNDA FASE: COMIENZAN LOS ERRORES

No vamos a extendernos en el *Operativo Rosario*. Diremos solamente, por ahora, que se trató de una acción anfibia clásica basada en fuerzas especiales de tipo comando, ejecutada de forma brillante, con la característica de que, a pesar de que opusieron fuerte resistencia, ninguno de los 84 infantes de marina reales de la guarnición británica en Malvinas





Un "Pucará" en Puerto Argentino. Obsérvese que se encuentra sobre un simple terreno aplanado.

resultó muerto ni herido, cumpliéndose así al pie de la letra las instrucciones previamente impartidas por el Mando argentino.

La segunda fase comenzó con la salida de los puertos británicos de la Fuerza Operativa inglesa, bajo el mando del almirante Woodward, a la que se encomendó por el gabinete Thatcher la misión de recuperar las Malvinas, así como Georgias del Sur y Sandwich. Según datos de procedencia británica, el grueso de la fuerza aeronaval enviada en los primeros momentos al área de operaciones constaba de los siguientes efectivos:

**Portaaviones:** *Hermes* (con doce V/STOL *Sea Harrier*, helicópteros *Sea King*, *Wessex*, y *AM Seacat*) e *Invincible* (8 *Sea Harrier*, *Sea King*, *Sea Dart*). **Cruce-**  
**ros:** *Antrim* y *Glamorgan* (*Seaslug*, *Seacat*, *Exocet*, *Wessex*). **Destruyores:** *Sheffield*, *Glasgow* y *Coventry* (*Sea Dart*, *Lynx*, cañones de 114 mm.). **Fragatas:** *Alacrity*, *Antelope* y *Arrow* (*Exocet*, *Seacat*, *Lynx*, cañones de 114 mm.). *Broadsword* y *Brilliant* (*Exocet*, *Seawolf*, *Lynx*). *Ply-*

*mouth* y *Yarmouth* (*Seacat*, *Wasp*, cañones de 114 mm.). **Buque de asalto:** *Fearless* (*Seacat*, *Wessex*, Bofors 40 mm.). **Submarinos nucleares:** inicialmente 3 (torpedos *Tigerfish*). **Aviones:** 20 *Sea Harrier* y disponibles en bases lejanas 10 *Vulcan*. **Helicópteros:** 32 *Sea King*, 10 *Lynx*, 7 *Wessex*, 2 *Wasp*. **Lanzamisiles:** 28 *Exocet*, 8 *Sea Dart*, 56 *Seacat*, 4 *Seaslug* y 24 *Sea Wolf*...

De acuerdo con fuentes argentinas, este núcleo inicial de la Fuerza Operativa británica se vio considerablemente aumentado posteriormente, además de ser reforzado con buques de transporte de tropas y de apoyo logístico tanto de la Marina Real como de procedencia civil, a los que se sumaron, siempre según fuentes de la Inteligencia Naval argentina, buques de apoyo en número no determinado que habrían sido suministrados por la Marina de guerra de los Estados Unidos.

Por parte argentina, los efectivos aeronavales alineados para la batalla eran los siguientes:

**Portaaviones:** 25 de Mayo (*Super Etendard* originalmente, aunque estos

aviones solieron operar desde bases terrestres, *Skyhawk*, *Sea King*, *Alouette*, Bofors 40 mm.) **Cruce-**  
**ros:** *General Belgrano* (*Seacat*, cañones de 152/47 y 127/25 mm.). **Destruyores:** *Hércules* y *Santísima Trinidad* (*Sea Dart*, *Exocet*, *Lynx*, cañones de 114/55 mm.), *Rosales* y *Almirante Storni* (cañones de 127/38 y 76/50 mm., torpedos), *Seguí*, *Hipólito Bouchard*, *Piedrabuena* y *Comodoro Py* (*Exocet*, cañones de 12/38 mm. (1)). **Fragatas:** *Drummond*, *Guerrico* y *Granville* (*Exocet*, cañones de 100/55 mm.). **Submarinos:** *Salta* y *San Luis* (tipo 209, torpedos 533 mm.), *Antago del Estero* y *Santa Fe* (ex-US Guppy, torpedos 533 mm.). **Aviones de la Armada:** 6 *Super Etendard*, 14 *Skyhawk*, 6 *Tracker S-2A*. En lo que se refiere a aviación disponible para acciones de ataque contra la fuerza británica, consistía en: 11 *Canberra*, 68 *Skyhawk* no embarcados, 26 *Dagger*, 19 *Mirage-III*, 45 *Pucará*, 10 *Neptune*. Los helicópteros eran 2 *Lynx* y 4 *Sea King*. Las rampas de misiles: 28 *Exocet*, 4 *Sea Dart* y 8 *Seacat*.

En cuanto a los efectivos de las fuerzas terrestres, en la fecha de elaboración de este informe no se habían hecho públicos por los contendientes el número empleado en la batalla. Los datos referentes a los combates que terminaron con la toma de Puerto Argentino hacían referencia al empleo, por parte británica de la III Flotilla de *Royal Marines* con tres batallones y dos baterías de 105 mm., del *Special Air Service* (SAS), del 2º batallón del Regimiento Paracaidista, un batallón de Gurjas. Se encontraba también el 2º batallón del *The Scots Guards* y el primero de *The Welsh Guards*, todos ellos apoyados con artillería de 105 milímetros y dos secciones de carros ligeros *Scorpion* y *Scimitar* y abundante dotación de intensificadores de luz para visión nocturna, visores IR, misiles tierra-aire *Blowpipe* y *Rapier* y contracarro *Milan* y *Swingfire*. En la batalla final, los datos conocidos hablan del empleo de unos 9.000 hombres desembarcados para las acciones terrestres.

Por parte argentina, datos de Buenos Aires aluden a 6.200 hombres empleados en la defensa de la isla Soledad, 1.800 en Gran Malvina y otros 1.000 en diversos puntos del archipiélago. Estas

(1) El D-25 *Seguí* tiene también cuatro cañones de 76/50 mm



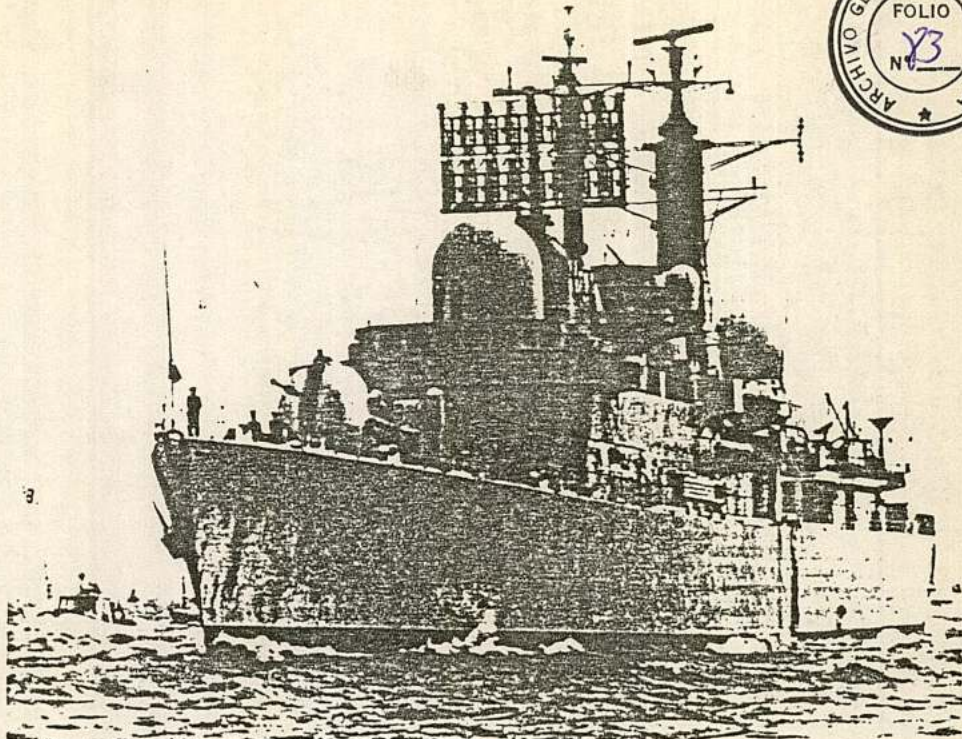
# la GUERRA del ATLANTICO SUR:

desarrollo y primeras lecciones



*El destructor HMS "Glasgow" llega a Portsmouth procedente del Atlántico Sur. Sobre la línea de flotación se observa el boquete causado por una bomba argentina que lo atravesó de lado a lado sin estallar. (Foto Archivo).*

3



cifras incluyen efectivos de Infantería y Artillería, así como Infantería de Marina y fuerzas especiales de comandos anfibios y buzos tácticos, apoyados por carros TAM y AMX-13, cañones autopropulsados Küirassier, autoametralladoras-cañón AML H-90, misiles tierra-aire Blowpipe, Tigercat y Roland.

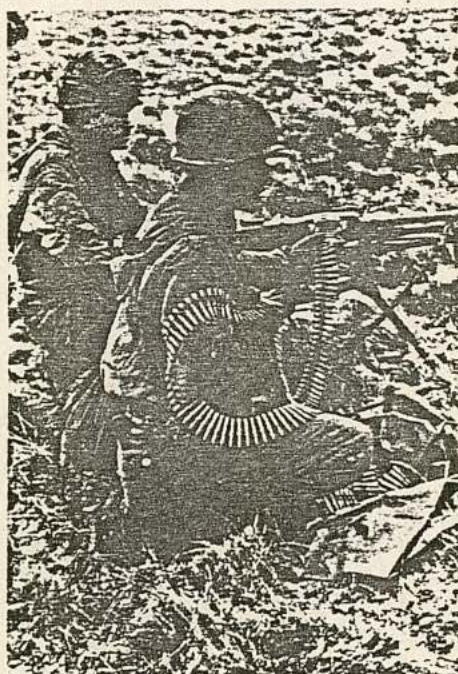
En esta segunda fase del conflicto, los planteamientos argentinos se basaron, primero, en la gran distancia (15.000 kilómetros) existente entre el Reino Unido y las Malvinas, que suponía un considerable obstáculo logístico para la Fuerza Operativa inglesa. Se contaba asimismo con el factor climático (por esas fechas estaba muy pronto el invierno austral) para entorpecer las labores de la flota británica. Finalmente, se consideró que los efectivos destinados a la defensa del archipiélago eran suficientes para resistir el asalto si éste (lo que en un principio fue considerado poco probable) tenía lugar.

Si fracasados los intentos de mediación internacionales el gabinete Thatcher seguía adelante con los planes de invasión el Mando argentino era de la opinión, ante la imposibilidad de defender la totalidad del archipiélago a causa de su peculiar geografía, por razones político-estratégicas la posesión de la capital del archipiélago —principal punto, por otra parte de concentración de población civil malvinense— era la pieza clave del conflicto. Por ello, bajo el mando del general Menéndez, las fuerzas expedicionarias fortificaron Puerto Argentino, concentrándose en el perímetro defensivo que, apoyado en las colinas y alturas próximas, se estableció en torno a ésta.

El segundo núcleo de defensa, en la isla Soledad, quedó establecido en torno a Puerto Darwin y Goose Green, lugar este último en el que existía un aeródromo de utilización militar. Reforzaba estos planteamientos el hecho de que las características del suelo malvinense, blando en unos lugares y escarpado en otros, le imposibilitaban al enemigo, en el caso de que llegase a desembarcar, la construcción de pistas desde las que pudieran operar los Harrier sin recurrir al despegue vertical, lo que supondría para la Aviación británica un considerable consumo de combustible. En realidad, lo que se esperaba era que los aviones británicos operasen desde el Hermes y el Invincible,

bases que la Aviación argentina iba a tratar de convertir en vulnerables.

La gran baza argentina era, desde luego, la Aviación. Excepto los Pucará destinados al apoyo de las tropas de tierra, con bases en el archipiélago (isla de Borbón, Goose Green y Puerto Argentino, entre otras), el resto de la Fuerza Aérea actuaría desde los aeródromos situados en suelo continental. Ello le daba al Estado Mayor bonaerense la posibilidad de cubrir el área Malvinas y ponía, por otra parte, las bases a salvo de posibles incursiones lanzadas contra el Continente desde la flota británica, debido a la menor autonomía de los Harrier. Sólo las amenazaba la acción de los bombarderos británicos Vulcan de la isla de Ascensión, pero ello supondría un importante y grave paso político que se esperaba no diese



*Aunque parezca increíble, una gran parte de los soldados argentinos que ocuparon las Malvinas eran bisoños, con sólo tres meses de preparación militar.*



*Misil Blowpipe empleado por los ingleses contra la aviación argentina. (Foto Archivo.)*

el gabinete Thatcher. De todas formas, consistentes efectivos fueron destinados a la defensa de todos los aeródromos situados en tierra firme.

Por su lado, los británicos apostaban sobre la superioridad numérica y tecnológica de su flota, creyendo que ésta saldría victoriosa de un enfrentamiento con las unidades navales enemigas. Los submarinos de propulsión nuclear constituían un recurso de gran valor, en este capítulo. También se confiaba en los sistemas de defensa aérea embarcados para proteger a las unidades de superficie y darle cobertura a las operaciones de desembarco que tendrían lugar mediante aproximación indirecta al objetivo, por pasos de presión creciente. La defensa aérea sería completada por los Sea Harrier, a utilizar también en apoyo a las fuerzas que combatirían en tierra.



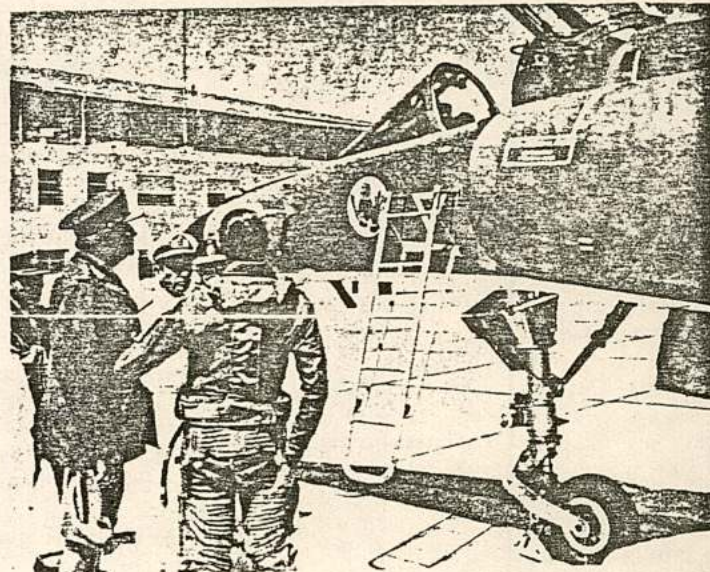


*Un observador de artillería argentino dirigiendo el fuego propio. Al fondo un oficial otea el horizonte con sus prismáticos.*

Entre el Reino Unido y el área de operaciones se estableció un *corredor naval* de gran magnitud en el que desempeñaría un papel clave la isla de Ascensión, hito importantísimo del dispositivo logístico. En cuanto a la información sobre movimientos enemigos se basó desde un principio, según fuentes de la Inteligencia argentina, en los sistemas de detección y reconocimiento proporcionados por los Estados Unidos, incluyendo la observación por satélite. Con esos medios, la intención de los británicos consistía en bloquear por mar y aire las Malvinas para después ir asestando una serie de golpes que habrían de culminar con la toma de Puerto Argentino. Para la fase del combate terrestre, los británicos contaban con la superioridad de sus efectivos humanos, profesionales y altamente operativos, frente a la bisonñez de las tropas enemigas, en su mayoría reclutas de reemplazo con tres meses de entrenamiento, empleadas en la defensa de Puerto Argentino.

Como puede apreciarse, ya desde el primer momento ambos bandos incurrieron en errores que habrían de acarrear trágicas consecuencias. Por las dos partes se infravaloró la capacidad enemiga. Londres subestimó la eficacia de la Aviación argentina magnificando, en cambio, la capacidad defensiva de sus unidades navales. En cuanto a Buenos Aires, no consideró la capacidad logística británica y el peso de la cooperación norteamericana con Londres, así como la eficacia de los efectivos ingleses destinados al combate terrestre, confiando excesivamente

*Cuando se tomó esta fotografía, en la que se ve al general Galtieri contemplando un Super Etendard de la Armada argentina, recién recibido, nadie podía imaginar qué es lo que, en el mayor de los secretos, preparaba Buenos Aires (Foto Archivo).*



en los daños que su Aviación podría causar a la *Task Force* enemiga. Además, colocaron en el archipiélago tropas con escasa preparación militar y concibieron una defensa estática, clásica, de Puerto Argentino. Y, sobre todo, Buenos Aires dio a los británicos tiempo y tranquilidad para que concentrasen en el área los efectivos de la Fuerza Operativa concediendo a éstos, incluso, la oportunidad de aplicar los primeros golpes.

### TERCERA FASE: A SANGRE Y FUEGO

Dejando al margen la toma por el Reino Unido de las islas Georgias del Sur, situadas 1.300 kilómetros al Este de Malvinas (hecho que se saldó con el hundimiento del submarino argentino *Santa Fe* y la captura por los ingleses de 261 militares enemigos), la tercera fase del conflicto comenzó el 30 de abril, con las primeras incursiones de los *Sea Harrier*

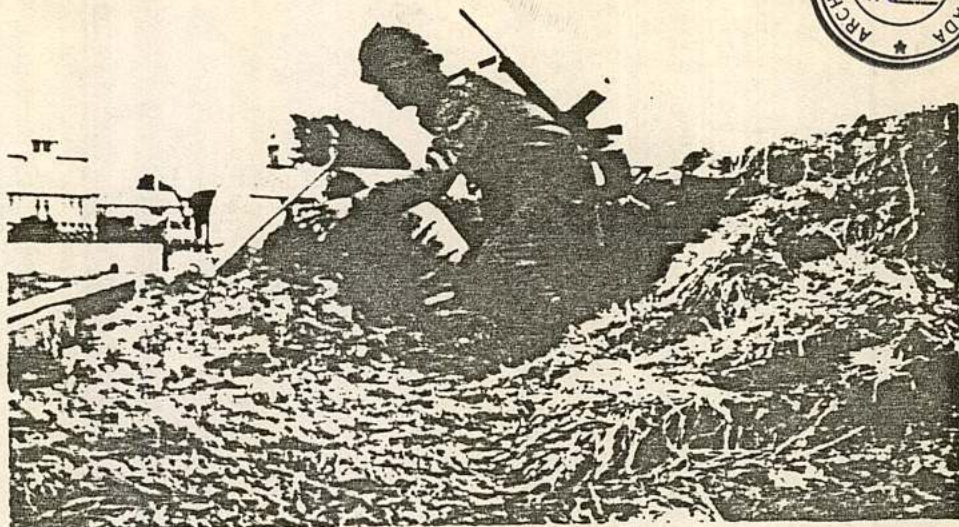
sobre Puerto Argentino y el intento de destrucción del aeródromo de la citada capital. El 2 de mayo, el sumergible británico *Conqueror* torpedeó y hundió al crucero argentino *General Belgrano*, sin declaración previa de guerra y cuando esta nave se hallaba fuera del área de operaciones. El desastre del *Belgrano* (20 muertos y 301 desaparecidos de un total de 1.042 tripulantes) puso en marcha el mecanismo de respuesta argentino, hasta entonces a la expectativa.

El hundimiento del *Belgrano* y el del transporte argentino *Isla de los Estados* fueron las dos únicas acciones de buque a buque llevadas a cabo en el conflicto por la flota británica. Del lado argentino, hay

constancia de dos acciones de submarinos: el torpedeamiento y avería de una fragata del Tipo 22, no identificada, y el ataque fallido de otro sumergible argentino al portaaviones *Invincible*, que pagó el submarino con 70 horas de inmersión, eludiendo ataques de torpedos y cargas de profundidad. No hubo unidades de superficie argentinas envueltas en la batalla porque, ante la presencia de los submarinos enemigos, la flota de Buenos Aires se mantuvo durante todo el transcurso de las operaciones replegada sobre el litoral continental, en aguas poco profundas, al objeto de rehuir el contacto con la *Royal Navy*, cuyas características técnicas les daban a los marinos argentinos pocas posibilidades de supervivencia.

Todos los restantes ataques sufridos por unidades navales argentinas (destrucción del submarino *Santa Fe* en las Georgias, hundimiento del pesquero *Narwal*, avería de los transportes *Rio Carcaña* y *Bahía Buen Suceso*, avería del aviso *Alferez Sobral* y del guardacostas *Rio Iguazú*) fueron obra de los aviones británicos. En





Organizando posiciones defensivas, camufladas con hierba seca, en Puerto Argentino.

cuanto a los submarinos, aunque fueron fuente de preocupación para el Mando británico, hay que señalar que, salvo las mencionadas, no llevaron a cabo otras acciones de consideración. Hay que tener en cuenta que el patrullaje de los helicópteros antisubmarinos de la *Royal Navy* fue constante, empleándose avanzados medios de detección británicos y norteamericanos para proteger los convoyes que navegaban desde Ascensión, así como los buques actuaban en la zona de las Malvinas.

Con el intento de desembarco frustrado que la *Task Force* británica argumentó a primeros de mayo recurriendo a sus helicópteros de ataque y transporte, se inició la tercera fase del conflicto, coincidiendo con la respuesta masiva de la Aviación argentina contra la flota inglesa. El 4 de mayo, un *Super Etendard* de la Armada argentina hundió al destructor *Sheffield* con un misil AM-39 *Exocet* disparado desde 35 kilómetros de distancia. Era la única arma no convencional de que disponían los aviadores argentinos. Esta fue la primera de una serie de acciones encaminadas a quebrantar la operati-

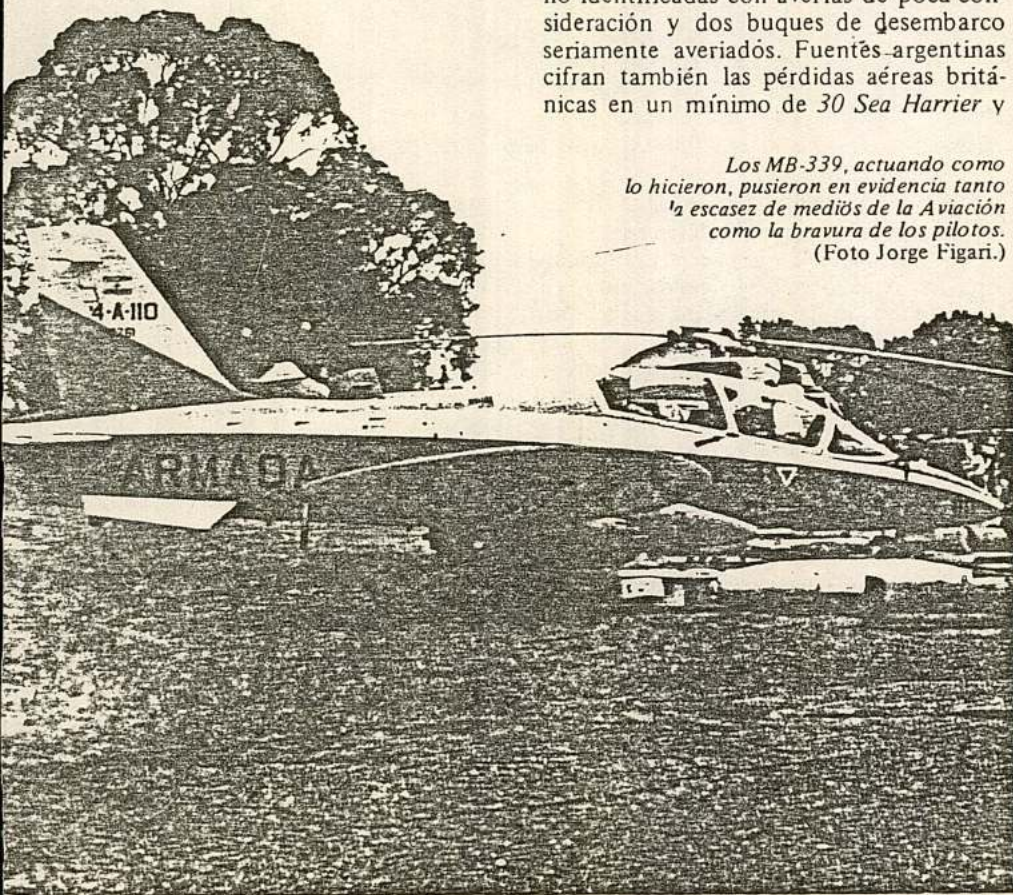
vidad de la Fuerza Operativa enemiga, que los pilotos argentinos llevaron a cabo con inesperada profesionalidad y eficacia, no discutidas por nadie. Hasta el final del conflicto, los pilotos argentinos hundieron otro destructor del Tipo 42, el *Conventry*, dos fragatas del Tipo 21: la *Ardent* y la *Antelope* y la *Plymouth* del Tipo 12, además del portacontenedores *Atlantic Conveyor*, con 16 *Harrier* y abundante equipo de repuestos a bordo, y del buque de asalto *Sir Gallahad*.

Además de estas acciones, reconocidas oficialmente por Londres, habrían resultado fuera de combate o dañados de diversa consideración los portaaviones *Hermes* e *Invincible*, un destructor del Tipo 42, dos destructores de la clase *County*, dos fragatas del Tipo 22, una fragata clase *Leander*, cinco o seis fragatas no identificadas con averías de poca consideración y dos buques de desembarco seriamente averiados. Fuentes argentinas cifran también las pérdidas aéreas británicas en un mínimo de 30 *Sea Harrier* y

*Harrier* (sin contar los transportados por el *Atlantic Conveyor*) y unos 35 a 40 helicópteros, mientras que las pérdidas aéreas argentinas habrían sido, según Londres, 1/3 de los efectivos en *Mirage* y *Dagger*, de 1/8 a 1/7 de *Skyhawk* y 1/4 de *Canberra*, además de *Pucará* y helicópteros en número no determinado. A este respecto, Buenos Aires reconoce unos 40 aviones destruidos y otros tantos helicópteros, cifras en las que no incluye los *Pucará* puestos fuera de combate en tierra. De todas formas, ya se sabe que en cuestión de cifras resulta extraordinariamente difícil establecer evaluaciones fiables. Lo que resulta claro es que la Fuerza Operativa británica pagó un alto precio por la victoria, y que la Aviación argentina sufrió un severo costo en hombres y máquinas en su búsqueda de resultados eficaces.

Las acciones aéreas que tuvieron lugar en el área Malvinas pueden clasificarse en cinco apartados: combates avión-avión, que se fueron haciendo poco frecuentes con el paso del tiempo, ataques a tierra de *Harrier* y *Pucará* en apoyo de acciones propias; raids de poca envergadura llevados a cabo contra la *Royal Navy* por *Pucará* y por entrenadores *Aermacchi MB-326* y *MB-339*; ataques a la flota británica con bombas por aviones *Skyhawk* (el tipo de acción más frecuente); y ataques a la flota británica efectuados por el temible binomio *Super Etendard-Exocet*.

De todo ello, las misiones de uno y otro bando contra objetivos terrestres pueden considerarse clásicas (señalando una notable actuación defensiva, en ambos lados, del SAM ligero *Blowpipe*), y las de los *Aermacchi* y *Pucará* contra unidades navales, más simbólicas que efectivas (la intervención de los primeros, dadas sus limitaciones, fue una sorpresa). En cuanto a los pilotos de *Pucará* hicieron prodigios de valor y acrobacia aérea atacando buques ingleses en vuelo rasante. Uno de ellos, el teniente Daniel Juckil, llegó a alcanzar con su fuego al *Hermes*, siendo derribado y muerto en la acción. Por lo que respecta al combate aéreo clásico el *dogfight*, los *Harrier* se mostraron inferiores a los *Mirage*, llegando finalmente hasta eludir este tipo de enfren-



Los MB-339, actuando como lo hicieron, pusieron en evidencia tanto la escasez de medios de la Aviación como la bravura de los pilotos.  
(Foto Jorge Figari.)



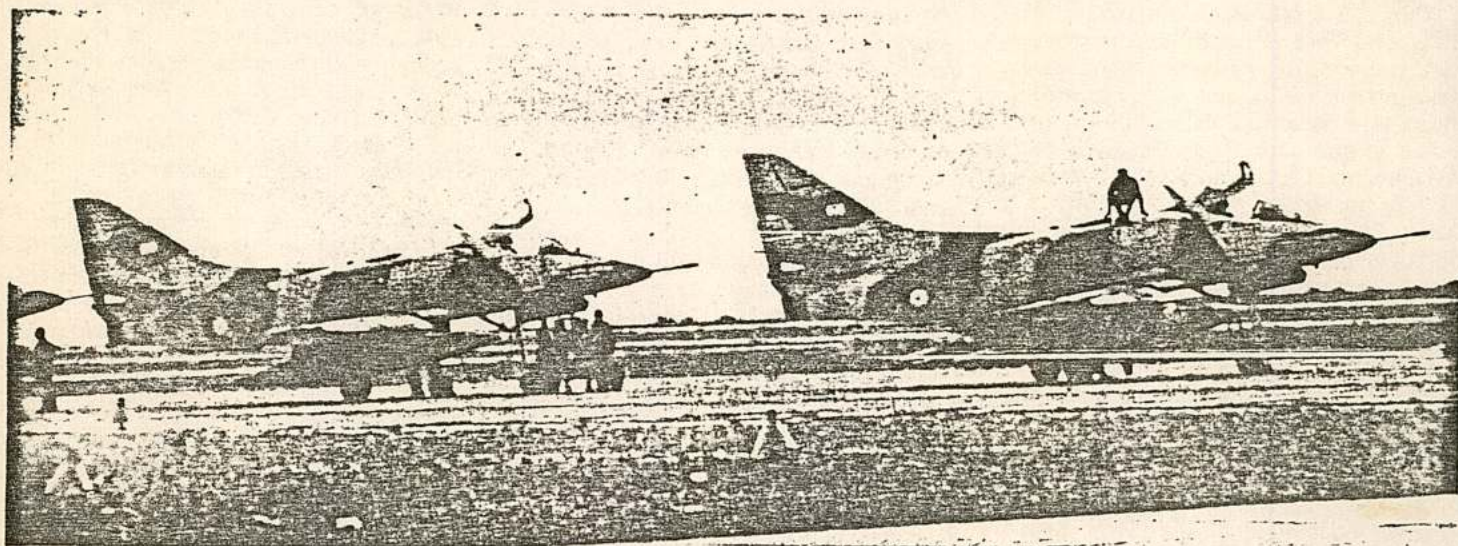
# la GUERRA del ATLANTICO SUR: desarrollo y primeras lecciones

Una patrulla argentina y una constante mirar al cielo. Por ahí llegaba el enemigo

tamiento. Los *Harrier* también fueron encargados de interceptar a los *Skyhawks* que atacaban a la flota con aparentes mejores resultados, aunque en su mayor parte, según los indicios, estos últimos fueron derribados por la defensa antiaérea de las naves británicas.

El plato fuerte, por lo que se refiere al acoso de la *Royal Navy*, se centró en los *Super Etendard*, los *Mirage/Dagger*, y los *Skyhawks*, que tienen en su haber casi la totalidad de las pérdidas navales

formes suministrados por Estados Unidos, amén de por sus propios medios de detección. Las escuadrillas de *Skyhawks*, armados con bombas convencionales, despe- gaban escalonadas, rumbo a la zona donde se suponía podrían hallarse los objetivos. De esta forma una primera oleada localizaba al enemigo, lanzándose inmediatamente al ataque, a costa de elevadas pérdidas, comunicando al mismo tiempo la posición exacta a las oleadas siguientes, que ya actuaban sobre seguro. Los *Skyhawk* se acercaban a sus blancos en vuelo rasante (los aviones tenían que ser lavados con agua dulce al regreso para eliminar el salitre del agua del mar), en masa, con el fin de que parte de la escua- drilla llegase al objetivo y pudiera lanzar las bombas. Estos ataques se combinaban con movimientos de otros aviones (inclu-



Cazabombarderos A-4B "Skyhawk". Combatieron desde una posición sumamente precaria dada su antigüedad y escasez de equipos. (Foto Archivo).

británicas. Los aviones argentinos debie- ron hacer frente a tres problemas funda- mentales: la habitual limitación de visi- bilidad y techo (el *Mirage* fue el menos afectado), el problema del combustible (el área Malvinas estaba situada a 700 u 800 kilómetros de sus bases, mientras que los portaaviones británicos se hallaban a sólo 150 kilómetros lo que daba lugar a que los argentinos tuvieran más avio- nes, pero los británicos pudieran realizar más misiones) y, finalmente, la carencia de medios aéreos apropiados de reconoci- miento y detección. A todo ello hubo que añadir el enorme potencial de defensa aérea con que contaba la Fuerza Opera- tiva británica, que adoptó un dispositi- vo de defensa circular alrededor de los objetivos más codiciados: los portaaero- naves.

La indiscutible decisión de combate y el tremendo valor de los pilotos argen- tinos, les llevó a adoptar una táctica esca- lofrante en 1982, para la localización de objetivos antes del ataque, problema que los ingleses no tenían al contar con los in-

yendo aparatos civiles) en misiones de di- versión y saturación de radares enemigos. La fase aeronaval de la guerra de las Mal- vinas puso de manifiesto graves fallos en los sistemas de defensa aérea de las uni- dades navales británicas, cuyos misiles *Seawolf* respondieron bien, pero cuyos *Sea Dart* defraudaron las esperanzas de- positadas en ellos. La experiencia demos- tró que pilotos altamente cualificados (los argentinos tenían un mínimo de 1.000 a 1.200 horas de vuelo) operando a ras del agua y con las suficientes agallas todavía pueden, hoy en día, burlar a los más avanzados sistemas técnicos con mé- todos que los estrategas consideran anti- cuados (recordemos que los *Skyhawk*, por ejemplo, no llevan radar).

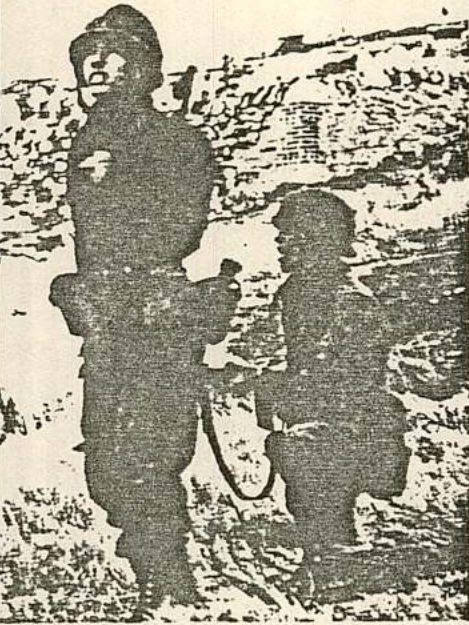
Por los que se refiere a la actuación de los *Super Etendard/Exocet*, éstase materiali- zó en 3 ataques: contra el *Sheffield*, contra el *Atlantic Conveyor* y contra el *Invincible*, con el resultado del hundimiento de los dos primeros y la puesta fuera de comba- te del tercero. De esas misiones cabe des-

ta- car el hecho de que, en el caso del ata- que contra el *Invincible*, el *Exocet* dis- parado desde el *Super Etendard* fue escol- tado a ras del agua hacia el blanco por una escuadrilla de cuatro *Skyhawk* que protegían el misil frente a los radares ene- migos y que, momentos antes del impac- to, se quedaron retrasados para, siguiendo la estela del misil, rematar el ataque con sus bombas de 400 kilos.

Aparte de la competencia de los pilo- tos atacantes y de la incuestionable efica- cia de este binomio avión-misil de tecno- logía francesa, el desarrollo de las ope- raciones en las que fueron utilizados, y en general las acciones aéreas argentinas, pusieron de manifiesto graves fallos en las unidades navales y en algunos de los sis- temas de defensa aérea utilizados por la Armada británica. Las fragatas, dotadas de muy avanzada tecnología electrónica, se revelaron excesivamente vulnerables a los golpes enemigos. La concentración de los mandos de armas electrónicas de a bordo en una sola consola, por ejemplo,



Comandos de Marina argentinos. Su actuación fue importante en la primerísima fase de la conquista



hizo posible, en ocasiones, que un solo impacto de bomba dañase la central de computación de los sistemas integrados dejando a las naves completamente indefensas. Esto debió ocurrir al menos en dos de las fragatas británicas, ya que pilotos argentinos informaron que al pasar sobre ellas no fueron atacados por misiles superficie-aire. Por otra parte, resulta importante reseñar que el destructor *Sheffield* (alcanzado por *Exocet*) y las fragatas *Ardent* y *Antelope* (misiles y bombas convencionales) no se hundieron de inmediato, sino que fueron presa del fuego durante varias horas antes de naufragar, lo que motivó su abandono cuando, quizá, podrían haberse mantenido a flote de no haber mediado el incendio. El motivo radica en que las superestructuras de estos buques contenían grandes cantidades de aluminio, a causa de los modernos sistemas de propulsión y armamento. Y el aluminio se funde a 660 grados centígrados, la mitad antes que el acero. Los elementos de madera y otros materiales destinados al confort de las

dotaciones también contribuyeron a aumentar la inflamabilidad.

Tampoco hay que olvidar que si el *Sheffield*, por ejemplo, no hubiese sido construido demasiado corto de eslora por razones presupuestarias, podría haber dispuesto, quizá, de un sistema *Seawolf* y de los últimos modelos de radares para detección de misiles, que habrían permitido, quién sabe, neutralizar el *Exocet* que lo echó a pique. El conjunto de todos esos factores, unido a los anteriormente citados, fue lo que dio en las operaciones un carácter letal e infalible al *Exocet* como protagonista más destacado.

#### CUARTA FASE: UNA DERROTA EXPLICABLE

La cuarta fase, o fase terrestre del conflicto de las Malvinas, se inició el 21 de

mayo, con el desembarco británico en la cabeza de playa de Bahía San Carlos, al oeste de la isla Soledad. Por esas fechas, los británicos habían logrado un rotundo éxito logístico al situar en el área de operaciones un centenar de buques y 27.000 hombres, de los que unos 10.000 integraban la fuerza de desembarco (soldados profesionales, con tres o cuatro años de entrenamiento específico, expertos en las operaciones heliportadas que tan vital papel habrían de jugar en la batalla). Las pérdidas sufridas hasta entonces por la Flota y la Aviación estaban nuevamente cubiertas, y aunque ya volaban pocos *Sea Harrier* con el característico color azul de la *Royal Navy*, habían sido sustituidos por los pintados con colores de camuflaje de la RAF, llegados a la zona tras ser reabastecidos en vuelo.

Según fuentes de la Inteligencia argentina, en el notable esfuerzo logístico desempeñaron un papel importantísimo los aviones cisterna KC-135, de la USAF, y diversos tipos de buques de la *US Navy*, aparte de las entregas de avanzado material de repuesto y para la lucha terrestre. Incluso informes no difundidos oficialmente en Buenos Aires hablaban, ya cuando el *Hermes* y el *Invincible* se encontraban fuera de combate, de que una inesperada treintena de *Harrier* británicos que actuaron en los últimos días de la batalla final habrían despegado de la cubierta de un portaaviones norteamericano, llegándose incluso hasta a mencionar el nombre del *Saratoga*.

Dados los planteamientos tácticos británicos una vez férreamente establecido el bloqueo de las tropas que defendían el archipiélago, sólo un desembarco podía dar la exacta medida del grado de decisión de la defensa argentina, así como mostrar al enemigo el grado de determinación propia. El almirante Woodward



La bahía de Puerto Argentino fotografada desde la capital malvinense.



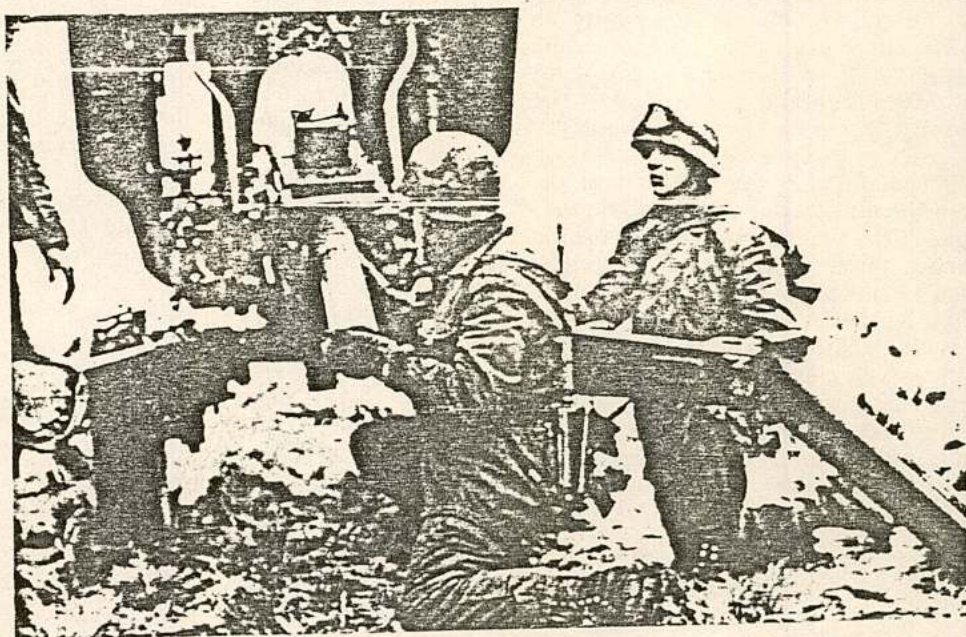
# la GUERRA del ATLANTICO SUR: desarrollo y primeras lecciones

contaba a su favor con el hecho de que a su rival, el general Menéndez, le resultaba imposible predecir el lugar exacto en que tendría lugar el desembarco, y que para prever cualquier contingencia en el complicado litoral malvinense habrían hecho falta el triple de los efectivos acantonados en las islas (lo que hubiera exigido triplicar un abastecimiento que el bloqueo inglés tornaba imposible). Por consiguiente, para evitar una inútil dispersión, las tropas argentinas se habían concentrado, en la isla Soledad, en torno a los dos objetivos más obviamente codiciados: Puerto Argentino, la capital, clave política y militar de la estrategia argentina en las Malvinas, y Puerto Darwin y Goose Green, en la zona central de la isla Soledad. Tras analizar la situación, el Mando de la Fuerza Operativa resolvió correr el riesgo calculado de meter sus naves en el estrecho de San Carlos para establecer allí la primera cabeza de playa de la invasión. Woodward confiaba en su defensa antiaérea, en las bajas ya sufridas por la Aviación argentina, en las nubes bajas y niebla cerrada que favorecerían los desembarcos, en la menor calidad militar de las bisoñas tropas terrestres enemigas, en la descoordinación existente entre Marina, Aviación y Ejército argentinos (para la coordinación hace falta entrenamiento conjunto, y Argentina no lo tenía), en la profesionalidad de sus tropas de asalto y, finalmente, en la evaluación general previa que le daba unas posibilidades de éxito superiores al 70 por 100. Así que resolvió lanzar el asalto.

Sería largo y prolijo relatar aquí las vicisitudes de las operaciones terrestres en detalle, así que nos limitaremos, por el momento, a retener las líneas generales. Utilizando al máximo y con plena eficacia su capacidad de helitransporte, las fuerzas británicas lograron establecer en San Carlos una cabeza de playa de 10 kilómetros de profundidad por 15 de frente. Los 400 hombres inicialmente desembarcados ascendieron pronto a 1.000 y después a 5.000, ampliándose el ataque hacia Puerto Darwin y Goose Green, defendidos sólo por un millar de argentinos, localidades que fueron tomadas el 29 de mayo. Obligado por su defensa estática de Puerto Argentino, el general Menéndez se mantuvo en sus posiciones reforzadas de la zona oriental de la isla, sin que se registrase ataque alguno contra los efectivos enemigos desembarcados. El peso de las operaciones recayó nuevamente sobre la Aviación argentina, que se lanzó a fondo en un intento por cortar el cordón umbilical de los abastecimientos que la flota inglesa aportaba a las tropas terrestres. Las pérdidas bri-

*Desde un pozo de tirador este infante argentino ve pasar, por la carretera, el tráfico propio.*

*Abriendo fuego con un 105/14. Al principio la artillería argentina tuvo efectos resolutivos pero la intervención de contramedidas, del lado británico, la redujeron al silencio.*



tánicas resultaron altas (en ese momento fue cuando se hundieron el *Coventry* y el *Atlantic Conveyor*), pero el esfuerzo logístico de la Fuerza Operativa fue superior.

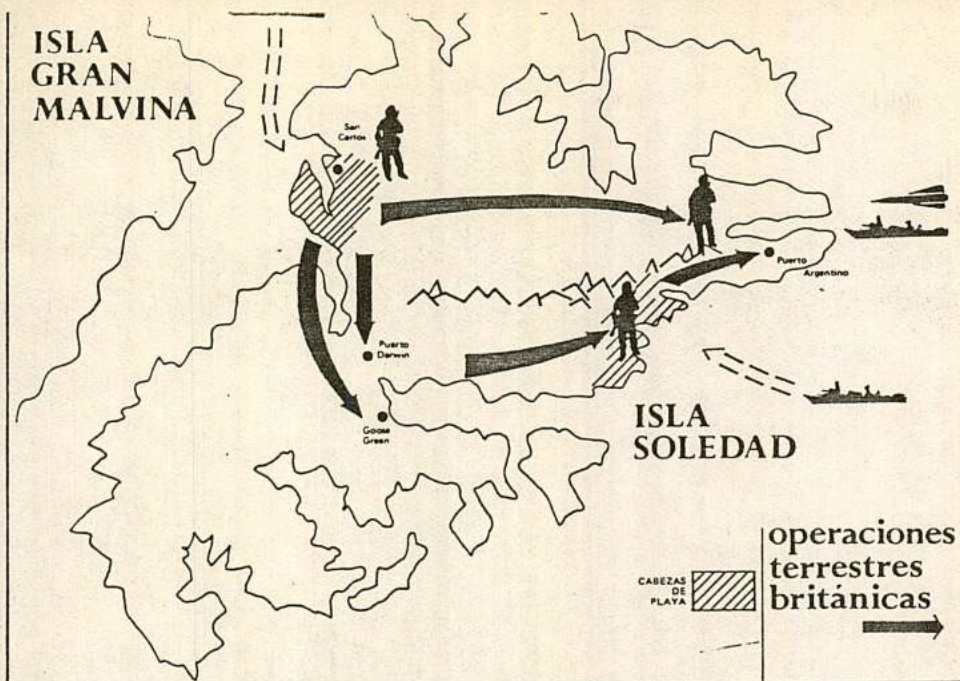
En un clima infernal, enfrentando tanto a los argentinos como a las duras condiciones del terreno, la invasión progresó en un movimiento de pinza hacia Puerto Argentino, mientras las fuerzas defensoras veían frustradas sus esperanzas de que las dificultades del suelo y el rigor invernal, así como los golpes asestados a sus líneas navales de abastecimiento, frenasen la sólida ofensiva enemiga, lenta pero metódicamente ejecutada. Poco a poco, la profesionalidad de los británicos, unida a su abundante despliegue de medios, iba empujando a las tropas adversarias hacia la península de Fresinet. Al

perímetro defensivo de la capital malvinense.

La ausencia de contraataques argentinos abandonaba prácticamente en manos enemigas todo el resto de la isla, lo que posibilitaba a los atacantes mejorar sus movimientos y logística. A la táctica tímida y estática de los defensores vino a unirse el hecho de que en ningún momento hubo decisión para recurrir a otros efectivos situados fuera del archipiélago. (y sin embargo preparados para intervenir) con objeto de organizar, en coordinación con la flota inútilmente replegada en la costa continental, contraataques o movimientos que comprometiesen seriamente las operaciones de desembarco enemigas, o al menos, aliviase la creciente presión ejercida so-



# ISLA GRAN MALVINA



bre Puerto Argentino. La impresión desde el primer momento fue que, del mismo modo que la guarnición de Puerto Argentino abandonó a su suerte a los defensores de Puerto Darwin y Goose Green tras la ofensiva británica desde la cabeza de playa de San Carlos, la propia guarnición de la capital malvinense quedaba abandonada por el resto de las Fuerzas Armadas argentinas que, a excepción de la Aviación, no protagonizaron intento alguno de cambiar el curso de los acontecimientos. Y si es cierto que, en esta guerra plagada de malos cálculos, los británicos subestimaron la capacidad de la Aviación argentina en la fase aeronaval del conflicto, no es menos cierto que en la fase terrestre, y decisiva, los argentinos aceptaron, equivocadamente, desde el primer momento, una situación defensiva que después se revelaría como insuficiente, resignada y suicida.

A mediados de junio, cuando el Mando británico ya tenía concentrado el grueso de sus efectivos para asestar el golpe decisivo, la presencia argentina en el norte de la isla Soledad se limitaba a la península de Fresinet, en el perímetro defensivo de la capital malvinense, apoyada en las colinas y cerros colindantes. El Mando defensor confiaban todavía en la invulnerabilidad de Puerto Argentino, mostrándose dispuesto a mantenerse indefinidamente frente a un largo asedio (?). Por su parte, los dos avances en pinza británicos, uno por el Norte y otro por el Sur de la mitad norte de Soledad, se habían centrado ya para el golpe final, y los 7 000 hombres del comienzo sumaban ahora 9.000 tras nuevos desembarcos en otros puntos de la isla (en uno de ellos, en el sector de Bahía Agradable, los ingleses sufrieron el último gran desastre de la guerra: la fragata *Plymouth* y el buque de desembarco *Sir Gallahad* fueron hundidos, otras unidades tuvieron averías y hubo 400 bajas entre muertos y heridos). Y entonces, aprovechando las horas nocturnas para sus primeros ataques, los británicos volcaron todo su peso en la batalla.

Colinas y cerros cayeron uno tras otro. Medios oficiales argentinos manifestaron en aquel momento en Buenos Aires su sorpresa ante el avanzado material y la potencia de fuego desplegado por el enemigo en la batalla; material hasta aquel momento totalmente desconocido por los servicios de información propios. Mientras las unidades navales castigaban duramente Puerto Argentino, los británicos potenciaron el helitransporte, la artillería, las acciones tipo comando. Sus unidades iban provistas de precisos aparatos de visión nocturna (*Pocketscope* individual, *Sniperscope Snipe* para tiradores, *Night Observation Device* para artillería a base de infrarrojos y láser, *Night Driver's Viewer* para conductores, *Baird General Purpose Night Vision Goggles* para todo uso...) y su potencia de fuego era abruma-

dora. Los *Harrier* efectuaron sesenta misiones de combate. La defensa argentina se desmoronó, y las avanzadas británicas llegaron hasta los suburbios de la capital, una ciudad de casas bajas y livianas, muy poco a propósito para intentar, como último recurso, el combate callejero contra los atacantes. Por otra parte, la Junta Militar argentina llegó a la conclusión (algo tardía) de que no estaba dispuesta a pagar el alto precio político que podría suponer la muerte de varios miles de reclutas a los que se les ordenase resistir hasta el último cartucho. La Marina de Guerra argentina seguía inmovilizada junto a la costa y los *Rapier*, *Hawk* y *Blowpipe* británicos, desplegados masivamente, habían creado un paraguas defensivo impenetrable para la Aviación. Puerto Argentino estaba perdido. Y el 14 de junio, el general Menéndez recibió autorización para rendirse.

Las razones del triunfo británico podrían quizá resumirse en tres palabras: logística, profesionalidad y paciencia. Las de la derrota argentina, en dos: imprevisión y descoordinación interarmas. Esas fueron, en un primer análisis, las claves en la guerra del Atlántico Sur.



Nuestro enviado especial, Arturo Pérez-Reverte, en la isla Gran Malvina. Fue uno de los únicos tres periodistas no argentinos presentes en el teatro del conflicto durante las operaciones.





#### ALGUNOS DATOS SOBRE LA AYUDA MADE IN USA

En su interesante reportaje, Arturo Pérez-Reverte hace reiteradas alusiones a la ayuda recibida por el Reino Unido, en el campo militar, de Washington. Como en otros muchos capítulos de este enfrentamiento, todavía es demasiado pronto para saber, con detalle, en qué consistió esa ayuda que ha sido, desde luego, cierta, cuantiosa, precisa y oportuna, oficializándose a partir del momento en que el entonces secretario de Estado norteamericano, Alexander Haig, dijo que su país iba a responder positivamente a las peticiones de apoyo material —y de otro tipo— formuladas por Londres. ¿De qué material se trató? Las propias fuentes británicas han hablado de misiles AIM-9L *Sidewinder*, que fueron utilizados por los *Harrier* para derribar algunos de los aviones argentinos, así como de misiles tierra-aire *Hawk*, distintos equipos para la detección de submarinos, grandes cantidades de munición, sobre todo para la artillería naval, paneles de acero destinados a la construcción de pistas de aterrizaje de fortuna, piezas de repuesto de diversas clases y, por supuesto, equipos electrónicos y otros ingenios muy avanzados.

Vital ha sido, en el capítulo logístico, la isla de la Ascensión, situada frente a las costas africanas y a 6.000 km. de las Malvinas. Allí se encuentra una gran base aérea, construida por los Estados Unidos y bajo mando norteamericano, así como una base naval de primera importancia, costeada igualmente con fondos yanquis. Ambas sirvieron de escala para la fuerza aeronaval expedicionaria británica y allí aterrizaron, atiborrados de material, los C-130 *Hércules* y C-5 *Galaxy*, de la US Air Force, que llegaban desde los Estados Unidos tras una escala en la base aérea de Howard, situada en la Canal Zone panameña. Otros C-5 transportaron aviones *Harrier* entre el Reino Unido y Ascensión, comprendiéndose muy bien que un alto mando británico haya afirmado, oficiosamente, que *sin la base intermedia de Ascensión no podríamos haber emprendido esta guerra o nos habría resultado enormemente más onerosa y difícil de ganar*.

De extrema importancia pueden consi-

derarse también las informaciones de tipo meteorológico y, más aún, las proporcionadas sobre los movimientos de las unidades argentinas —navales, aéreas y terrestres— por los aviones de reconocimiento U-2 y SR-71 norteamericanos, extremo dado como seguro en los medios generalmente bien informados de Washington y recogido, sin mentís alguno, en la Prensa de esa capital, que sí descartó, en cambio, la participación de los AWACS en la recogida de datos.

En esta misma línea cabe incluir la labor de los satélites de observación lo que, por otra parte, resulta explicable ya que el Reino Unido tiene acceso al caudal del Centro de Información y Vigilancia de las Flotas Oceánicas (FOSIC) norteamericano, donde se centralizan las informaciones que proporcionan los satélites denominados *espías*, además de las de los buques y aviones de vigilancia. Se da el caso curioso de que la central del FOSIC no se encuentra en los Estados Unidos, sino en el cuartel general que la US Navy posee en Grosvenor Square, en Londres, mientras que también tiene su centro en el Reino Unido, concretamente en la localidad escocesa de Edzell, otro sistema norteamericano: el *Orsus*, de satélites centrados en la observación de los océanos que, en bandadas de a cuatro, cada 104 minutos completan la órbita terráquea a mil kilómetros de altura, proporcionando inteligencia mediante fotografías, radio y radares. Todos estos sistemas, a los que cabe añadirles los satélites que controla directamente la CIA y otros, compatibilizan sus datos, dentro del cuadro de la OTAN, con los satélites *Skynet* británicos.

Siempre dentro del campo de la inteligencia, no hay que olvidar que el Reino Unido y su pariente sajón del otro lado del Atlántico forman parte del consorcio SIGINIT, para la localización de buques en el océano mediante las señales radio que éstos transmiten, una de cuyas bases se encuentra en la ya mencionada isla de Ascensión.

La beligerancia de la Administración Reagan ha sido, desde luego, muy acusada en el plano militar y si en Londres existió un Gabinete de

Guerra, lo que es lógico, en Washington funcionó, lo que lo es mucho menos, otro organismo del estilo denominado *Gabinete de Crisis*, a cuyas sesiones asistieron el presidente y vicepresidente norteamericanos, el secretario de Estado, el secretario de Defensa, el jefe del Estado Mayor Conjunto y el secretario de la US Navy, entre otros.

Estados Unidos hizo algo más que ayudar a Londres. Puso sus inmensas capacidades al servicio de un objetivo logrado: evitar que Buenos Aires pudiera reponer sus pérdidas y adquirir medios de defensa o de apoyo nuevos. Y llevó su celo hasta el extremo de imposibilitar que fructificase una compra de asientos eyectables para los *Skyhawk* argentinos, lo que hizo que el coronel Ruben Corradetti, de la misión argentina en Washington, declarase que la medida *va en contra de los derechos humanos. Nuestros pilotos tripulan aviones sin equipos de seguridad. Sin son derribados no pueden saltar*.

Un hecho curioso, si las Malvinas han vuelto a caer bajo la férula imperial inglesa es, en buena parte, gracias al reverdecimiento de la alianza que hizo posible su conquista por la Royal Navy hace siglo y medio largo. En efecto, el proceso que acarrearía su pérdida se inició cuando el gobernador argentino de las Malvinas, Luis Vernte, apresó tres pesqueros norteamericanos que, sin permiso, se dedicaban a la caza de la ballena en las aguas jurisdiccionales del archipiélago. Tras este suceso, el buque de guerra *Lexington*, de la flota de los Estados Unidos fue despachado a las Malvinas que abordó, destruyendo las instalaciones y dispersando a quienes allí vivían. Esto tuvo lugar en diciembre de 1831 y en enero de 1833, un año después, dos buques de la Royal Navy se presentaron, quedándose con las islas bajo el pretexto de que eran suyas. Como ha escrito Jean J.A. Salmón, profesor de la Universidad Libre, de Bruselas: *La Argentina protestó, ¿pero que podía hacer frente a la más grande potencia marítima mundial de la época. La acción acumulada de los EE.UU. y de la Gran Bretaña le hicieron perder las Malvinas*.

La historia, pues se ha repetido. ■



ESCUELA DE GUERRA NAVAL

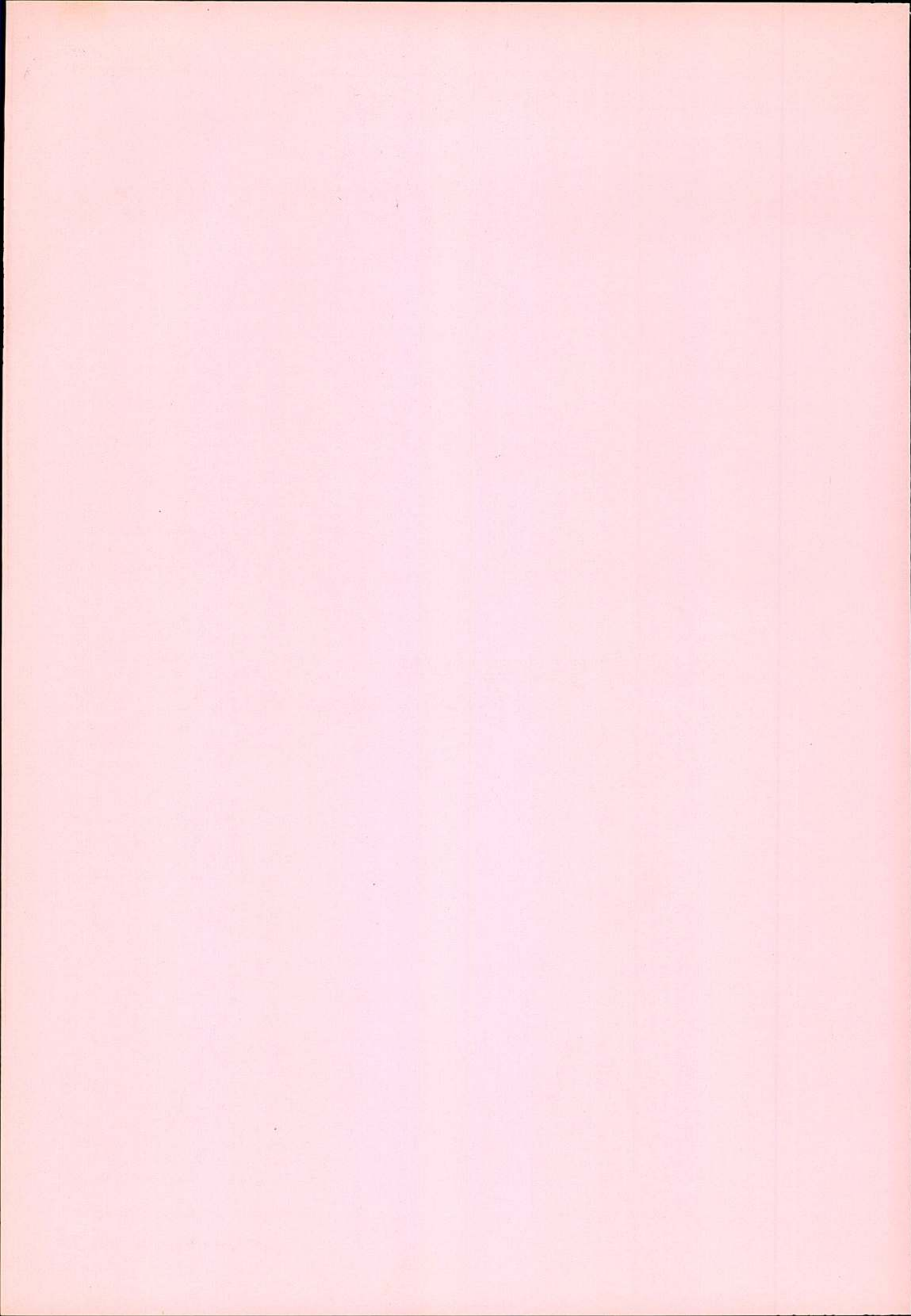
TACTICA



THE INSTRUCTIVE FALKLANDS WAR

(Air Force Magazine JUL. 82)







## The Instructive Falklands War

**M**ORE information has filtered through the fog of war in the South Atlantic winter, and more analyses are being done. The resulting lessons are useful to navies and air forces, and also to land forces, politicians, and diplomats. On a preliminary basis, certain lessons can be deduced with very high confidence.

Gen. T. R. Milton does so in his column, p. 89. He reiterates the truth that both sides had to go to war with what they had, and in unplanned ways. Both used a mixture of high-technology weapons and conventional, even obsolete, materiel (such as Vulcan bombers). He underscores the value of aerial refueling in power projection, whether strategic or tactical. He leaves the debate of small vs. large carriers for others to argue for now.

Gen. Lew Allen, Jr., just retired as USAF Chief of Staff, draws still more lessons from the Falklands actions. In an interview beginning on p. 42, he enters an important caveat. In analyzing the Falklands case, one should not lose sight of the main objective, the main factor driving the size and basic characteristics of US forces: that is, the prospect of a conflict with the Soviet Union.

General Allen then cites important lessons capable of wide application. Already noted is the "enormous effectiveness of the US Air Force's aerial refueling capability." It means that USAF can deploy essentially all of its aircraft for unlimited distances. That capability has taken a long time to develop and sustain. But by existing in the aircraft and aircrews, it is a vital factor in crisis considerations of both friend and foe.

The role of land-based airpower in maritime combat situations has also been highlighted. General Allen cites specifics where that is particularly applicable for US forces: assistance of land-based AWACS aircraft to the fleet, exploiting the range and payload of B-52s for minelaying, and ability of long-range air to attack surface shipping. He notes that the Air Force and Navy have worked together on such functions, and suggests that the "Air Force needs to better prepare itself to provide that kind of support to the Navy."

For its part, the US Navy is studying hard on the Falklands conflict. Senior naval leaders expressed their findings to me. They reinforce those points already made by Generals Allen and Milton, particularly in joint Air Force-Navy operations. One notes, for instance, that AWACS on station supported by long-range F-15s can control the airspace over the Greenland-Iceland-Norway gap north of the British Isles. Working with the right mixture of carrier task forces, P-3 ASW aircraft, and

submarines, such a combination can pen up the Soviet surface and submarine fleets. That can prevent them from reaching the Atlantic and cutting vital US sea lanes. The important word here is *combination*. The carriers and subs cannot do the job alone, but in combination with the land-based airpower, it can be handled. Similar applications to the Mediterranean, North Asia, and other regions are obvious.

Another lesson the naval leaders cite is the high rate of ammunition consumption, and the need to stock in peacetime for long conflict. This is especially true of high-technology weapons, the precision-guided missiles. They run out fast and are hard to restock, as both the British and Argentines have discovered.

Also, the warriors don't always use the high-tech weapons as the systems analysts have ordained: they fire them at the targets encountered. (The Argentine counterpart of the Pentagon's PA&E probably said, "Arturo, save the Exocet for the big carriers, the *Hermes* and *Invincible*." But Arturo sank the *Sheffield* and a cargo vessel anyhow, because they were there.) The instructive lesson is this: in war, you will take the targets you get, and try for maximum impact. You'll try to sink or destroy them, whether they fit the prewar models or not.

Regarding weapons stockage levels, the US Navy's submarine fleet has only 1.5 loadouts of the advanced Mk-48 torpedoes. When the first load is fired, the total stocks on hand will only half reload the fleet. After that, the submariners will fight with conventional "dumb" torpedoes.

The Navy's surface fleet is worse off: stocks too low to fill its magazines even once. The Air Force is better off, because it funded purchases of high-tech weapons while the Navy opted to buy ships. Thus, in the next conflict, we can expect US forces to use up their "smart" weapons early. After that, they will continue the fight with iron bombs and guns. Then it'll be essential to concentrate forces at the point of decision, using superbly trained and ready crews with enough ammunition and fuel to prevail.

This brings us to the final point. A naval leader calls it the "wisdom of orthodoxy." That is, in a war, you will always take hits. Therefore, you should be ready for damage control and battle damage repair in order to continue the fight though hit. Current USAF initiatives in those areas show that Air Force leaders have already learned those lessons.

F CLIFTON BERRY JR. EDITOR IN CHIEF



In a makeshift combination of aging tanker and bomber, the British employed a surprise projection of strategic power in the South Atlantic. If the Argentines had had more than a sprinkling of modern weapons the outcome might have been vastly different . . .

# Drawing Lessons From the Falklands War

By Gen. T. R. Milton, USAF (Ret.)

**O**N A visit to London in early May, I had the inescapable feeling that this was where I came in. There on the front page of the *Telegraph* was a picture of General Jimmy Doolittle and Bomber Command's Sir Arthur Harris coming out of the RAF church, St. Clement Danes. Except for the fact that Doolittle wore civvies, it might easily have been 1943.

There were other things on the front page that week to further reinforce the notion of a time warp. The BBC announced in grave but unemotional tones the sinking of HMS *Sheffield* by enemy aircraft, there were air battles over the Falklands, and the Prime Minister's standing had risen sharply in the polls. Even Britain's youth had abandoned its pretense of peace at any price. If needed, they now say in the polls, they will fight. There is, of course, no conscription, nor any government intention to test that sentiment. Not over the Falklands, at any rate.

May is a beautiful month in England, and those who suffer through long dark winters are determined to enjoy their springtime. This one was no exception, war or no war. Other than paying attention to the television news and the headlines, the feeling seems to be that this Falklands war is something for professional military men to worry about. If the Argentines had paid closer attention to the future status of those British forces, they might have waited a few months before seizing those islands.

The fact is that Britain is fighting this war with one aircraft carrier already sold to Australia, another scheduled for the scrap heap, and Vulcan bombers on their way to the boneyard. The Harriers were never intended as air-superiority fighters. That they have done well against Mirage IIIs and Daggers is a tribute to the training and professionalism of British pilots together with the fact that Argentina's air force is operating at maximum range.

Had it not been for this Falklands war, Her Majesty's forces were on the way to an insular role in NATO. Perhaps, after the business in the South Atlantic is over, they still are, although that is hard to believe. This wholly unexpected war with Argentina has aroused a lot of people to the dangers lurking in the world, and they are not altogether dangers Trident and MX missiles can deal with. Those doomsday machines have their place for the shadows they cast, but the fighting is still being done by men and lesser weapons, whether in the Falklands or the hair-trigger Middle East. There would appear to be some lessons, then, for defense budgeteers.

For starters, let's suppose the Argentines had begun this fracas with a squadron of F-15s, or F-16s, or even F-4s, along with a thirty-day supply of modern munitions. And then, instead of two KC-130s, let's suppose they had a small squadron of KC-135s, enough to give flexibility to their air tactics. If we are to judge from the damage the Argentine Air Force has inflicted with old bombs—aside from the one spectacular Exocet firing—the British task force might have had more than it could handle.

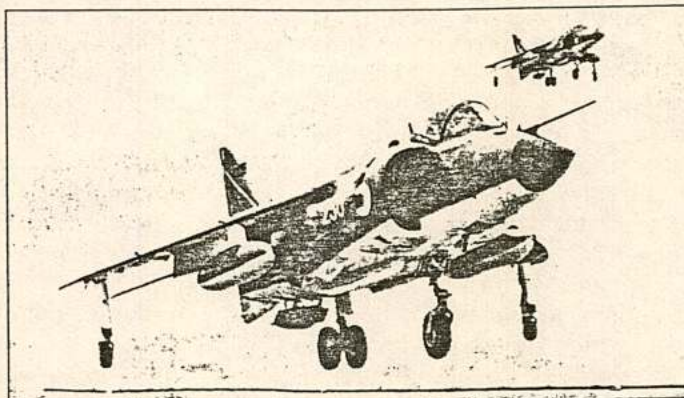
Happily for the UK, the Vulcans were still around, if only just, and were able to fly air-refueled sorties against the Falklands. Once again, as our own air force

demonstrated in Vietnam, nothing can match the response time of airplanes refueled in the air. The Vulcan attacks, seemingly coming out of nowhere on those cold Falkland nights, had to have been a severe shock to the Argentine troops.

A great many conclusions are going to be drawn from this war in the far-off South Atlantic. Carrier enthusiasts will surely find new justification for the carrier task force concept, and so they should, although it is not entirely clear, at least to me, that more small carriers might not be a better answer than fewer big ones. We will leave that for others to argue.

Another conclusion I can hope people will come to is the essentiality of a modern tanker force, along with versatile bombers and fighters to make use of that force. For reasons that I have never been even remotely able to understand, tankers do not get the kind of priority in the defense budget they deserve.

The Falklands war has focused attention on seapower—and properly so. But navies, even the best ones, take a considerable time to get where they are going. The Falklands situation has shown how even an old bomber teamed up with an old tanker can project power a distance of 3,000 miles. It is something to think about.



*Though not intended as air-superiority fighters, Britain's Sea Harriers have acquitted themselves well in the Falklands*





ESCUELA DE GUERRA NAVAL

TACTICA

COUNTERMEASURES AIDED. BRITISH

(Aviation Week 7 Space Technology JUL.19,82)







# Countermeasures Aided British

ECM, relying heavily on use of chaff, proved successful in diverting most radar-guided missiles of Argentines

By David A. Brown

London—British electronics countermeasures, which relied on the use of chaff, were successful in countering most radar-guided missiles fired by the Argentine forces during the Falkland Islands conflict, but the system backfired once when a missile diverted by ECM from its intended target hit and sank the cargo ship Atlantic Conveyor.

The missile, a French-built Exocet, was one of three Exocets to score hits on British ships during the war. It was launched from an Argentine navy Super Etendard fighter at a British warship, believed to have been the aircraft carrier HMS Invincible.

The missile was detected by British radar, and a chaff barrage, probably supplemented by active ECM, caused it to break lock on the warship and veer off.

## Four Exocets Fired

"The Atlantic Conveyor had the bad luck to become a very large decoy," one British military analyst said last week.

The British said at least four Exocet missiles were fired by the Argentine forces. One hit and sank HMS Shetland, one hit and sank the Atlantic Conveyor after having been diverted from its intended target, one was diverted from its target and went into the sea, and the fourth hit and damaged HMS Glamorgan. The Glamorgan was hit by a land-based

version of the Exocet, while the others were all air-launched versions.

The Argentines also fired French/German Roland missiles at several British aircraft, including Avro Vulcan bombers and British Aerospace Sea Harrier aircraft, without hitting them, according to British analysts.

In the attacks on the Vulcan bombers, the German-built Fledermaus radar systems directing the Roland missiles were jammed by active ECM equipment removed from Blackburn Buccaneer strike aircraft and fitted on the Vulcans at the start of the war.

The Sea Harriers were equipped with chaff dispensers and tail-mounted radar warning systems to help counter air defense radar systems.

One Sea Harrier was shot down by a missile, but it was believed to be an optically guided Short Brothers Blowpipe rather than a radar-guided missile.

Heavy expenditure of chaff by British ships off the Falklands has focused interest on more advanced chaff systems than are now operational.

Largely because of its lack of airborne early warning radar, the British fleet maintained a nearly continuous chaff barrage whenever the ships were under or were thought to be under missile attack.

The Atlantic Conveyor was hit while one such chaff barrage was being fired,

and all indications are that the incoming Exocet missile was presented with several possible targets, of which most were chaff clouds and one was the ship.

"The Exocet missiles were not fired at a specific target," one British defense analyst said, "but into an area where a large radar target had been observed." This accounts for the Argentine belief that they had hit a British carrier (AW&ST May 31, p. 22).

Plessey Aerospace, a major manufacturer of chaff dispensing systems for the British military, added night shifts and worked a seven-day week for more than a month to supply the chaff and associated rockets needed by the fleet.

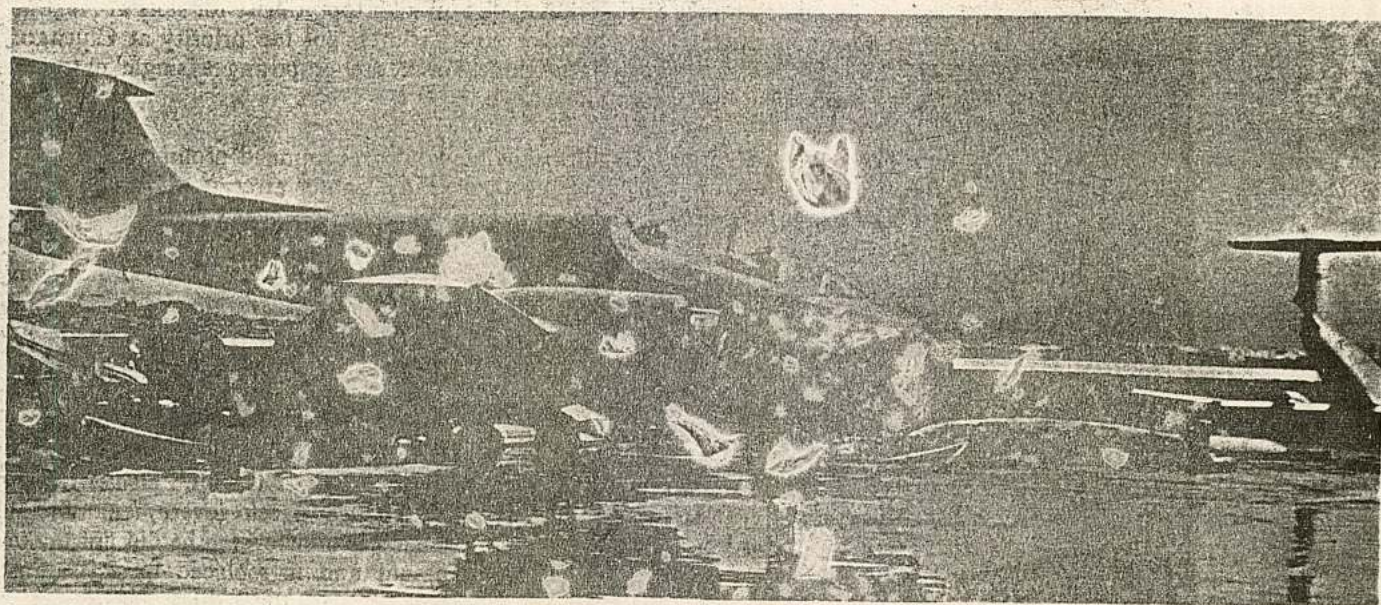
## Solid Fuel Launching

The Corvus launcher system, now in use with the British fleet, uses a solid fuel rocket to deploy chaff clouds at ranges of up to 2 km. (1.2 mi.) from the launch ship. The system operated effectively during the Falklands action, and there have been no reports of chaff rockets failing to fire.

A need is seen for a number of improvements, however, based on the results of the missile engagements. These include:

- An integrated ECM system, which will provide not only protection against radar-guided missiles but also against infrared seekers or laser-guided weapons.

- An automated system that will permit the electronics warfare controller to shift rapidly to different deployment modes and launch chaff in different directions from a central fire control station.



Argentine IA 58-Pucara turboprop attack aircraft, captured intact and relatively undamaged at Port Stanley airport, is expected to be brought back to Britain for evaluation by the British Aircraft and Armaments Establishment located at Boscombe Down.



# Fleet

- Greater range capability in deploying passive protection devices such as chaff.

- Increased capacity in each round of passive protection munitions, so that each can cover a larger area or remain effective longer.

An advanced passive defense system, termed the Shield, is under development by Plessey Aerospace, which will have a greater range and employ a semiautomated launch control system that will be integrated with the ship's primary computer. The system is designed to provide chaff protection in the range of 8-18 GHz to distances eventually up to 10 km. (6.2 mi.), infrared decoys that will simulate a large ship and, possibly in later versions, a laser decoy system.

## Linked to Computer

The Shield system will consist of a control system linked to the ship's central computer, through which it would receive weather data, primarily relative wind velocities.

By combining weather data with the requirements of a specific type of passive defense, chaff, infrared or other decoys can be placed precisely by the rocket delivery system to simulate the target in the shortest possible time.

In the case of chaff, there are four primary modes, which the system can select rapidly. The current Corvus system has to be switched manually from mode to mode and is not capable of operating in all four modes at once.

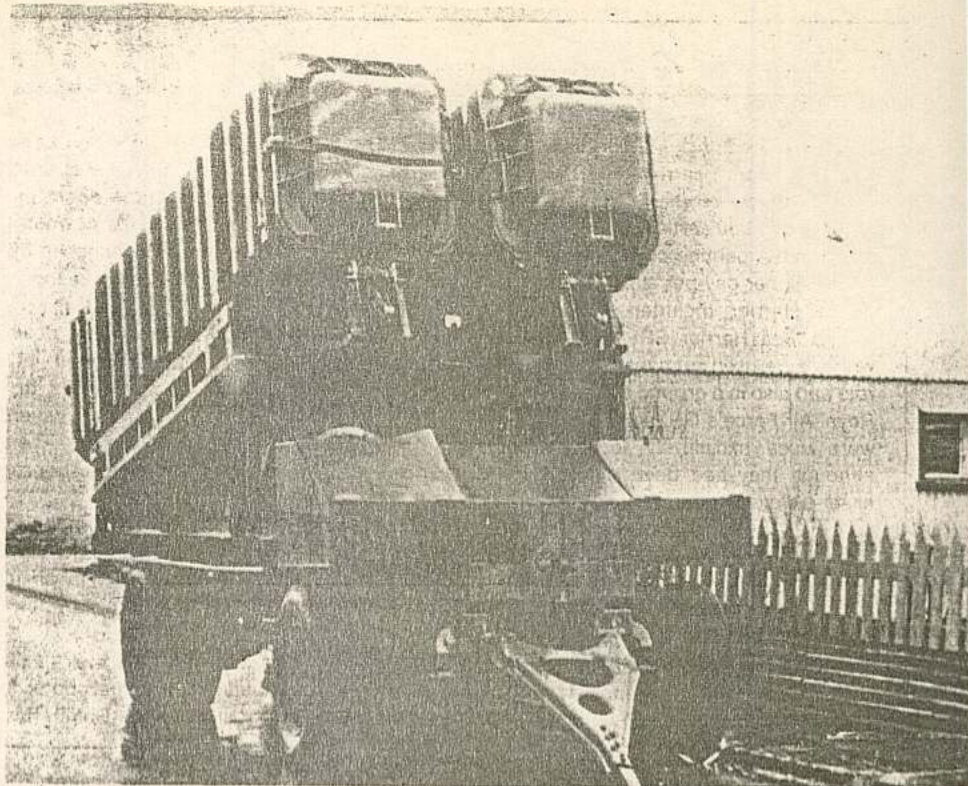
Modes for the Shield system would be:

- Confusion mode, with chaff deployed eventually out to 10 km. and used in cases where the ship is not certain it is under attack.

- Distraction mode, in which an inbound missile is confused before lock-on by a number of decoy targets placed around the ship.

- Dump decoy mode, in which a missile that has locked on to the ship with an active radar seeker is deceived by an active jammer and its lock transferred to a precisely placed chaff cloud.

- Seduction or centroid mode, a "last-change" method, in which a chaff cloud is placed immediately upwind of the ship and allowed to pass quickly over and around the ship from bow to stern, transferring the missile's radar lock from the ship to the chaff cloud. This can be used on missiles close to the ship and can be deployed in 1.5 sec. or less. Because of multipath reflections between the sea and the chaff cloud, a radar echo enhancement of up to 10 db. is possible in this mode.



Argentine equipment captured in the Falkland Islands includes a mobile Exocet missile launcher which was found in Port Stanley. Launcher may have been the one that fired a missile which hit HMS Glamorgan, a British ship which was firing at Port Stanley airport.

The Shield system, according to Plessey Aerospace, has the advantage of having both a rocket delivery system, which allows the chaff cloud to be precisely placed and an aerodynamic dispersion system, which allows up to about 95% of the dipoles to be deployed. Older, explosive deployment systems were only about 40% effective.

For infrared decoys, the Shield system would use a multimission rocket, with each round carrying up to seven submunitions, each of which would be effective for a predetermined time. By dispensing the submunitions in a prearranged pattern, a cloud can be formed that has hot and cool

areas, closely simulating the heat profile of a ship.

An antiradar system under development would deploy a decoy that produces a signature similar to that of the ship's radar side-lobe, to prevent missiles from detecting and tracking the ship's own radar emissions.

Plessey officials said the Shield system would be ready for initial deployment in 1985, although earlier use of some features might be possible.

The system will incorporate electronic fuzing and induction coupling in the rocket/launcher interface to improve efficiency and shorten loading time. □

## Invincible Sale Offer Withdrawn

London—Britain has withdrawn its offer to sell the aircraft carrier HMS Invincible to Australia and will retain three carriers in its fleet, the Defense Ministry said. The Invincible was one of the two carriers with the British Falkland Islands task force and late last week was still on station off the islands.

The Australian government had agreed to purchase the ship for about \$315 million, but when the Falklands conflict began, the Australians said they would not hold the British to the agreement. Instead, the British government is offering to sell or lease to Australia the older carrier, HMS Hermes, which also served in the Falklands and which was en route to Britain last week. The lease would be long enough for the Australians to find another aircraft carrier to buy or to have one built.

The second of three new British aircraft carriers, HMS Illustrious, was en route to the Falklands last week to replace Hermes. Illustrious is a sister ship to Invincible. The third ship of the class will not be completed for two years.

Australian Defense Minister Ian Sinclair visited Britain last week to discuss the carriers with British Defense Minister John Nott. Sinclair also visited the British Aerospace facility at Kingston upon Thames, where Sea Harrier fighter aircraft are built.





ESCUELA DE GUERRA NAVAL

TACTICA

EL CONFLICTO DE LAS ISLAS MALVINAS.

PRIMERA PARTE: LA GUERRA EN EL AIRE

(Revista Internacional de Defensa 8/82)







# El conflicto de las islas Malvinas

## 1ª parte: la guerra en el aire

por Derek Wood y Mark Hewish, Londres



Un primer balance del conflicto de las islas Malvinas muestra que los aviones, helicópteros y armas teleguiadas desempeñaron un papel primordial en la dirección de las operaciones. No será posible efectuar un balance completo hasta dentro de varios meses, cuando el ministerio de Defensa británico termine el análisis de los hechos. De todos modos, algunos de éstos, permanecerán quizá en la sombra; en el bando argentino, se observa una clara reticencia a divulgar informaciones sobre la guerra, sin duda por estar en curso una encuesta militar interna. Para preparar este artículo nuestros corresponsales en Londres se entrevistaron con industriales, responsables del ministerio de Defensa y militares que participaron directamente en los combates. Las operaciones terrestres y navales, así como el problema especial del empleo de misiles superficie-aire, serán estudiados en futuros artículos. — La Redacción.

Después de la invasión del archipiélago, los argentinos instalaron la mayor parte de sus medios aéreos en el aeropuerto de Port Stanley, que posee una pista de hormigón de 1.200 m. de longitud, y destacaron algunos aparatos en Goose Green y Pebble Island, donde hay pistas de hierba. Pero no intentaron prolongar la pista de Port Stanley, de manera que no pudieron emplear desde allí aviones de ataque Mirage o A-4. Los aprovisionamientos y los refuerzos eran enviados por aire, lo más de las veces en aparatos C-130 Hercules.

Cuando el mando argentino se dio cuenta de que la fuerza de intervención británica tenía intención de atacar, reforzó el dispositivo

aéreo con aviones Pucara de ataque contra objetivos terrestres y aparatos de adiestramiento T-34 Turbo Mentor y MB339, armados con cañones y cohetes. Fue aumentado igualmente el número de helicópteros de transporte. La defensa aérea, sobre todo alrededor de Port Stanley, fue organizada con misiles suelo-aire Roland y Tigercat, y cañones de 35 y 20 mm. Para la detección, los argentinos disponían de un radar de vigilancia táctica AN/TPS-44 y un AN/TPS-43 tridimensional. Para la dirección de tiro local, había un sistema Super Fledermaus.

La flota británica fue atacada por aviones Mirage y A-4, con la ayuda limitada, pero eficaz, de los Super Etendard de las fuerzas aeronavales, armados con misiles AM39 Exocet. Los pilotos argentinos sabían que el alcance eficaz del misil superficie-aire Sea Dart, instalado en los destructores británicos Tipo 42, es de

50 km., por lo que se veían obligados a atacar desde muy pequeña altitud con bombas, cohetes y cañones, sin ayuda de las CME. Por otra parte, los aviones argentinos operaban a unos 650 km. de sus bases, al límite de su radio de acción y con pesadas cargas de armas. Por consiguiente, los pilotos debían vigilar continuamente el nivel de sus reservas de combustible y, en el caso del Mirage, evitaban utilizar el dispositivo de postcombustión.

Los A-4 argentinos fueron reaprovisionados de combustible en vuelo, sin que se sepa si esta operación era corriente o excepcional.

Los pilotos argentinos dieron prueba de un valor ejemplar, pese a la oposición de los Sea Harrier armados con misiles AIM-9L Sidewinder, los misiles superficie-aire, los cañones de 40 y 20 mm. y el tiro de las armas ligeras. Su valor no fue siempre recompensado, por falta de viso-

res apropiados y debido a errores tácticos. Numerosas bombas alcanzaron la parte de popa de los buques o incluso cayeron en la estela de los mismos, como si los atacantes hubieran apuntado al centro de las naves, sin tener en cuenta su velocidad. Cuando las bombas eran lanzadas desde muy pequeña altitud (a veces 30 pies), no había tiempo suficiente para armar el detonador, por lo que cuatro bombas de cada cinco que dieron en el blanco no estallaron.

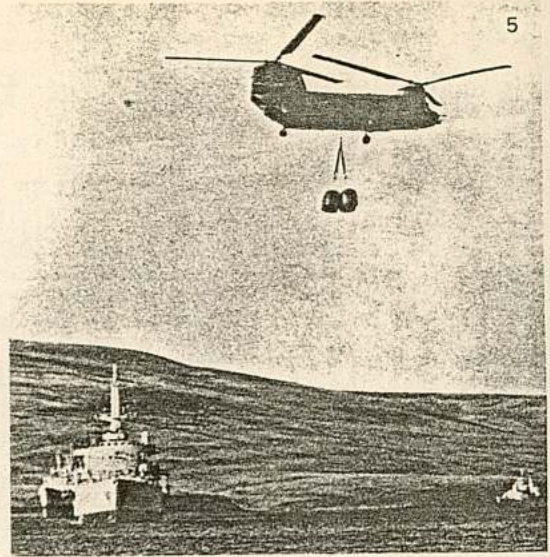
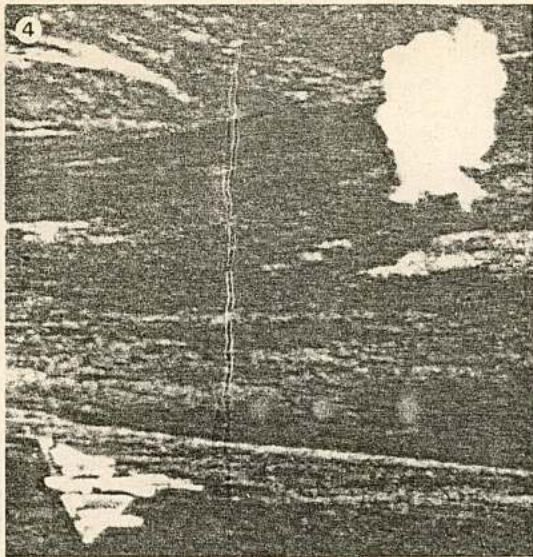
Para comprender lo que hubiera ocurrido si todos los proyectiles lanzados hubieran funcionado correctamente, basta con mencionar algunos ejemplos: la fragata Plymouth recibió cuatro bombas, casi todas lanzadas el 8 de junio por cinco Mirage. Ninguna estalló. Este fracaso les costó caro a los argentinos, pues la fragata disparó durante la campaña nueve Seacat y 900 granadas antiaéreas de 114 mm., derribando cinco aparatos y causando daños a otros más. Las fragatas Tipo 22 Brilliant y Broadsword, encargadas de proteger los portaaviones Hermes e Invincible, derribaron siete aviones argentinos; los misiles Seawolf lanzados por la Brilliant destruyeron enteramente un grupo de cuatro A-4, mientras que la Broadsword derribaba otros tres: dos con misiles Seawolf y otro con cañón Bofors de 40 mm. Los dos buques estuvieron a punto de ser hundidos: una bomba de 450 kg. rebotó en el agua a 5 m. detrás del Broadsword, pasó sin estallar a través del helicóptero Lynx posado en cubierta, mientras que otras tres bombas rebotaban por encima del Brilliant sin alcanzarlo. El destructor Tipo 42 Glasgow, de la misma serie

1 — Aparatos Harrier GR3 de la Aviación británica junto con los Sea Harrier de la Marina, en la cubierta de vuelo de un portaaviones (quizá el Hermes). El GR3 visible en primer término lleva bajo las alas bombas de 250 kg., guiadas por un sistema láserico Pave Way. El Sea Harrier de la derecha, delante de un helicóptero Sea King HAS Mk5, está armado con misiles AIM-9L Sidewinder.

2 — Helicóptero Westland Sea King Mk2 provisto de un radar Thorn-EMI Searchwater de vigilancia marítima, modificado para la detección de objetivos desplazándose a pequeña altitud. El 2 de agosto pasado, dos Sea King provistos de este radar aterrizaron en el Illustrious, más reciente portaaviones de la Marina británica, mientras éste navegaba por el canal de la Mancha dirigiéndose hacia las islas Malvinas. Estos helicópteros constituirán un medio de detección lejana, que tanto hace falta a la flota británica. La modificación de los aparatos duró once semanas en total; por el momento, no está previsto montar el Searchwater en ningún otro Sea King. En el momento de despegar o aterrizar, se hace girar 90° hacia arriba el radomo de grandes dimensiones, y luego éste se pliega hacia atrás. Según Thorn-EMI, sería relativamente fácil instalar el radar en otro aparato, ya que no es necesario desmontar el sistema de lucha ASM.







que los buques destruidos *Sheffield* y *Coventry*, fue alcanzado igualmente por una bomba de 450 kg. que no estalló.

Sin embargo, las armas del enemigo produjeron efectos devastadores cuando funcionaron correctamente. Fueron hundidos cuatro buques de guerra y uno de transporte, y dañadas otras diez naves. La pérdida del *Atlantic Conveyor* fue particularmente grave, porque esta unidad transportaba el 75% de los helicópteros *Chinook* de la Aviación británica, una escuadrilla completa de *Wessex*, gran cantidad de materiales y diversos aprovisionamientos. El *Exocet* que hundió el *Atlantic Conveyor* fue lanzado seguramente por un *Super Etendard* contra el portaaviones *Hermes* (el avión disparó dos misiles). Fue apartado de su objetivo por un helicóptero *Lynx* de la escuadrilla n° 815, que utilizaba simultáneamente señuelos y medios activos de CME (esta táctica defensiva contra misiles de trayectoria rasante fue desarrollada rápidamente después de la pérdida del *Sheffield*, hundido igualmente por un *AM39 Exocet*). El misil destinado al *Hermes* torció el rumbo hacia la derecha y se fijó en el buque grande más próximo, en este caso el *Atlantic Conveyor*, que se encontraba de 5 a 6 km. de distancia del portaaviones. Por este motivo creyeron en Buenos Aires que había sido hundido o gravemente averiado el *Hermes* o el *Invincible*.

La Aviación argentina prosiguió sus ataques (sobre todo en la bahía de San Carlos) hasta que sufrió demasiadas pérdidas y que el combate terrestre dió la ventaja a los británicos. No obstante, no cesó inmediatamente en el empeño; el 8 de junio, los LST *Sir Galahad* y *Sir Tristram* fueron alcanzados por aparatos A-4 en el momento de desembarcar a la Guardia Escocesa y otras tropas en Bluff Cove. El *Sir Galahad* se incendió, pereciendo 56 hombres. Puesto que el desembarco se efectuaba a la vista de los argentinos, los buques eran muy vulnerables: en el momento del ataque, los helicópteros estaban desembarcando las baterías de misiles suelo-aire *Rapier* que debían cubrir la operación.

Las incursiones británicas contra Port Stanley y los tiros de la artillería

naval neutralizaron progresivamente los aviones argentinos de apoyo cercano basados en el archipiélago. Por otra parte, cierto número de aeronaves, en particular aparatos *Pucara*, fueron destruidas en tierra en el aeródromo de Pebble Island por los comandos del SAS (Special Air Service). Los *Pucara* basados en el archipiélago atacaron a las tropas británicas que habían desembarcado y los buques que navegaban cerca de la costa. Resultaron ser muy peligrosos para los helicópteros en vuelo, pero vulnerables a los tiros de misiles suelo-aire, en particular los *Blowpipe*.

No se sabe por qué los argentinos no consiguieron derribar al menos un bombardero *Vulcan* y mayor número de *Harrier* y *Sea Harrier*. Sin embargo, poseían misiles suelo-aire de varios tipos, en particular *Blowpipe*, *Tigercat* y *Roland*. Se sabe que un *Harrier* y dos *Gazelle* fueron derribados por misiles *Blowpipe*. Otro *Harrier*, volando a 12.000 pies de altitud, fue alcanzado probablemente por un *Roland*. Varios *Harrier* fueron derribados por la artillería antiaérea. Se considera que el radar argentino *Super Fledermaus* fue incapaz de dirigir el tiro contra los *Harrier*, pero esto fue debido quizá a los medios de CME utilizados por las aeronaves de la Marina y la Aviación británicas.

#### Los Harrier y Sea Harrier

Una de las principales preocupaciones del estado mayor británico fue proporcionar a la flota y a las tropas desembarcadas los aviones de cobertura y apoyo que necesitaban.

Puesto que los dos portaaviones de la Marina británica, el *Hermes* y el *Invincible*, no pueden llevar más que helicópteros o aparatos V/STOL, la tarea principal recayó en los *Sea Harrier*, reforzados posteriormente con algunos *Harrier GR3* de la Aviación. Al principio del conflicto, la Marina poseía tan sólo 34 *Sea Harrier*; el contrato de adquisición de 10 aparatos adicionales había sido anulado por motivos económicos.

Las escuadrillas n° 800, 801 y 899, embarcadas en el *Hermes* y el *Invincible*, estaban provistas en total de 28 *Sea Harrier*, 6 de los cuales

**3** — Avión Victor reaprovisionando de combustible un C-130 volando sobre el Atlántico Sur (fotografía tomada después del alto el fuego). La operación se efectúa en vuelo descendencial, ya que la velocidad máxima del C-130 en vuelo horizontal es inferior a la velocidad mínima del Victor.

**4** — Avión de ataque argentino maniobrando para evitar los misiles superficie-aire disparados por los buques de la fuerza de intervención británica. La longitud del morro del aparato (no hay que confundirlo con el reflejo del tubo de Pitot) parece indicar que se trata de uno de los *Dagger* entregados a los argentinos (fotografía Press Association).

**5** — Helicóptero Chinook de la RAF llevando bidones de combustible colgados de la eslinga sobre la bahía de San Carlos. Esta fotografía demuestra que los buques de superficie británicos estaban expuestos al fuego del enemigo durante el establecimiento de la cabeza de puente.

**6** — Resultado parcial de uno de los bombardeos efectuados contra el aeropuerto de Port Stanley. En primer término se ven los restos de un avión *Pucara* de ataque contra objetivos terrestres y, detrás, los del *Britten-Norman Islander* del gobernador británico del archipiélago.

**7** — Dos aviones *Super Etendard* de la Marina argentina. Aparatos de este tipo, armados con misiles antibuque *AM39 Exocet* de trayectoria rasante, lograron hundir el destructor *Sheffield* y el buque de transporte *Atlantic Conveyor* (fotografía Camera Press).

fueron perdidos durante la campaña (4 por accidente y 2 derribados por la artillería antiaérea). Las primeras victorias aéreas alcanzadas con el *Sea Harrier* lo fueron por pilotos de la Aviación destacados en la Marina. En muy poco tiempo, los *Harrier GR3* de la Aviación fueron armados con misiles aire-aire *AIM-9L Sidewinder*. Fueron modificados igualmente sus soportes de fijación para poder llevar cohetes de *Sea Harrier*.

Todos los *Harrier* y *Sea Harrier* estaban provistos de detectores de radar y lanzaseñuelos; se cree que poseían también medios activos de CME.

Los *Sea Harrier* efectuaron más de 1.500 salidas y los *Harrier GR3* unas 150. Los *Sea Harrier* lograron 31 victorias aéreas seguras (y otras no confirmadas), sin perder un solo aparato en combate aéreo. Lanzaron en total 27 misiles *AIM-9L Sidewinder*, 24 de los cuales dieron en el blanco; al parecer, los otros 3 fueron disparados antes de fijar el autodirector en el blanco. Siete aparatos argentinos fueron derribados por el tiro de cañones *Aden* de 30 mm.

Los *Harrier* y *Sea Harrier* atacaron igualmente objetivos terrestres con bombas de 450 kg., cohetes y bombas de 100 mm. *BL 755*. Fueron utili-

zados buscadores de blancos marcados *Pave Way* con algunas bombas de 450 kg., asociados probablemente con un dispositivo terrestre de designación.

Los *Sea Harrier* efectuaron en promedio seis salidas diarias, de una duración de 90 minutos en la mayor parte de los casos. Su coeficiente de disponibilidad general se mantuvo por encima del 80%, incluso después de 24 horas de intensa actividad.

En Gran Bretaña, se afirma que la flota habría estado en mejor postura si la Marina hubiera mantenido en servicio un portaaviones de cubierta oblicua tal como el *Ark Royal*. Sin embargo, los aviones clásicos embarcados en este navío no habrían efectuado probablemente tantas salidas como los *Harrier* y *Sea Harrier* del *Hermes* y el *Invincible*, habida cuenta de las condiciones desfavorables del estado del mar, el viento y la visibilidad. Por otra parte, los aparatos clásicos no habrían podido reaprovisionarse y operar desde tierra, como lo hicieron los *Harrier* después de ser acondicionada una cabeza de puente. En cambio, habrían constituido un medio de detección temprana del que carecía la flota británica.



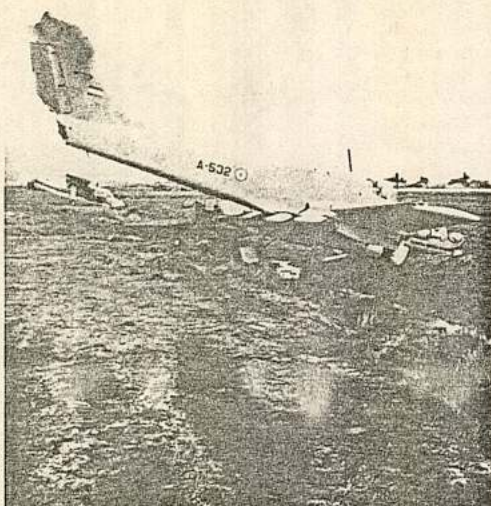
Los Nimrod del 18º grupo fueron de los primeros aparatos de la Aviación que llegaron a la isla de Ascensión. Llevaron a cabo con regularidad misiones de patrulla, vigilando los buques argentinos y soviéticos que seguían los movimientos de la flota británica rumbo a las Malvinas. Al cabo de algunas semanas, algunos Nimrod provistos de una lanza de reaprovisionamiento de combustible en vuelo pudieron operar a mayor distancia hacia el Sur y volar durante más de 15 horas seguidas. Estos aparatos lanzaron igualmente en paracaídas correo destinado a las fuerzas navales, contenido en sacos impermeables que recogían los helicópteros.

Los Nimrod efectuaron en total 110 salidas, armados con misiles Harpoon, y torpedos Stingray alojados en la bodega, así como con misiles Sidewinder y Martel fijados bajo las alas. El Harpoon será conservado sin duda como una de las armas estándar del Nimrod.

Los Vulcan

Cuando fueron invadidas las islas Malvinas, el Vulcan estaba siendo retirado del servicio y habían sido disueltas tres escuadrillas de la Aviación británica. El ministerio de Defensa había recibido ofertas de diversos museos que deseaban conservar algunos aparatos, así como de la Aviación argentina que quería adquirir una escuadrilla completa.

La Aviación británica decidió utilizar el Vulcan para operar en el Atlántico Sur, porque este aparato, reaprovisionado de combustible en vuelo, es capaz de alcanzar las Malvinas saliendo de la isla de Ascensión. Por otra parte, el bombardero constituía una amenaza potencial contra el territorio continental argentino. Se rechazó la eventualidad de bombardear Argentina, aunque



fue examinada en consejo de ministros. Las instalaciones del compartimiento de las armas fueron modificadas para poder llevar 21 bombas de 450 kg. y los aparatos fueron provistos de una lanza para el reaprovisionamiento de combustible en vuelo.

El 1º de mayo, un Vulcan despegó de la isla de Ascensión para bombardear el aeródromo de Port Stanley, situado a 5.600 km. de distancia. El aparato fue reaprovisionado varias veces de combustible, la última a sólo 320 km. de las Malvinas. Cuando llegó sobre el objetivo, efectuó una pasada ligeramente oblicua a 12.000 pies de altitud, con la esperanza de alcanzarlo con dos bombas. En realidad, sólo una de ellas cayó sobre la pista, y esto no impidió que aterrizaran y despegaran posteriormente aparatos argentinos Hercules y Pucara. Los Sea Harrier atacaron a su vez con bombas de 450 kg., para cortar la pista por sus dos extremos. A continuación, otro Vulcan procedente de

Ascensión lanzó sobre la pista 21 bombas, ninguna de las cuales dio en el blanco.

En esa ocasión, los argentinos utilizaron una estratagema muy ingeniosa: con tierra y arena, dibujaron sobre la pista círculos que imitaban perfectamente cráteres de bombas, logrando engañar incluso a los especialistas encargados de interpretar las fotografías aéreas. Convencido de que la pista era ya inutilizable, el comandante en jefe británico suspendió las misiones de Vulcan.

Sin embargo, los Vulcan efectuaron otras tres incursiones, dos de ellas para atacar los aviones en tierra y los almacenes del aeropuerto de Port Stanley, y la otra contra el radar Westinghouse instalado fuera de la ciudad. Al parecer, esta última misión fue llevada a cabo con un arma antirradar (quizá un misil Shrike), que no destruyó las instalaciones, derribando solamente las antenas. Al cabo de pocos días, el radar fue puesto de nuevo en servicio, e



interrumpía sus emisiones tan pronto como llegaban aviones británicos.

A su regreso, el Vulcan que había efectuado esta incursión no pudo reaprovisionarse de combustible en vuelo, debido a la rotura de la lanza. Aterrizó en Brasil, donde la segunda arma antirradar que llevaba fue confiscada.

Los Vulcan establecieron una plusmarca: la de la mayor distancia recorrida por un bombardero en la historia de la guerra aérea. El ministerio de Defensa prevé mantener en servicio cierto número de esos aparatos, como precaución por si se abrieran de nuevo las hostilidades en el Atlántico Sur.

Helicópteros

Los británicos utilizaron helicópteros de ocho tipos — Chinook, Sea King, Commando, Lynx, Wessex, Gazelle, Scout y Wasp —, encargados de llevar a cabo las misiones siguientes: protección ASM de la

Los Harrier en operación

Tuvimos ocasión de entrevistar al teniente de navío Dave Smith, de la escuadrilla n° 800 asignada al portaaviones Hermes. Este oficial había terminado su adiestramiento con el Sea Harrier sólo tres semanas antes de embarcarse. Llevó a cabo algo más de cincuenta misiones durante la guerra de las Malvinas — poco menos del promedio general, que fue de 55 a 60 misiones por piloto — y derribó dos Mirage. El primer combate tuvo lugar el 24 de mayo. El teniente de navío Smith efectuaba una patrulla con el comandante de su escuadrilla, capitán de corbeta Andrew Auld, a 10.000 pies de altitud, al norte del archipiélago. Los Sea Harrier fueron guiados hacia un grupo de cuatro Mirage que amenazaba la fuerza de desembarco en la bahía de San Carlos, y descendieron entonces a pequeña altitud a la vez que aceleraban. El capitán Auld vio tres Mirage que se acercaban a los buques, logró colocarse detrás de ellos y lanzó dos Sidewinder, cada uno de los cuales destruyó un Mirage. El teniente de navío Smith atacó un tercer Mirage con un Sidewinder, lanzándolo según un ángulo de casi 90°. Al principio, creyó que el misil erraría el blanco, pero la intercepción se produjo en pleno viraje, destruyendo el avión argentino. El cuarto Mirage lanzó sus bombas y depósitos externos de combustible, huyendo después en dirección a Argentina.

El teniente de navío Smith alcanzó su segunda victoria mientras patrullaba a las órdenes del capitán Dave Morgan, de la RAF, cerca del buque de transporte de asalto Sir Galahad, alcanzado por las bombas unas seis horas antes y envuelto en llamas. El capitán Morgan vio tres Mirage y se puso en posición invertida descendiendo hacia el mar. Enderezó cuando se encontraba a unos 100 pies de altitud y lanzó dos Sidewinder que destruyeron casi simultáneamente sendos Mirage. A continuación, disparó todas las municiones de sus dos cañones Aden de 30 mm. contra el tercer Mirage. El teniente de navío Smith vio los proyectiles dar en el agua cerca del objetivo, lo que le ayudó a localizar ese Mirage y fijar en él el

autodirector de un Sidewinder. En el momento en que el jefe de patrulla, habiendo llegado al límite de su reserva de combustible, volvía a coger altitud para regresar al Hermes, situado a unos 370 km. de distancia, el teniente de navío Smith lanzó el misil, que alcanzó su objetivo; éste se encontraba entonces a muy pequeña altitud sobre la tierra, a una distancia de 3 a 5 km. El Mirage se estrelló inmediatamente.

Según el teniente de navío Smith, la escuadrilla n° 800 disparó durante el conflicto 14 Sidewinder — todos ellos del modelo AIM-9L —, que derribaron 13 aparatos. El 1º de mayo, que coincidió con el principio de las operaciones aéreas, la escuadrilla se vio envuelta en un auténtico combate aéreo. En esa ocasión, dos Mirage argentinos lanzaron sendos misiles Matra R.530, de guía radárica semiactiva, contra aparatos Sea Harrier de la escuadrilla; pero, en ambos casos, los pilotos cesaron el combate sin iluminar sus objetivos hasta el impacto. Esos dos Mirage fueron derribados finalmente por los Sea Harrier. Posteriormente, los aparatos argentinos atacantes lanzaban sus cargas y daban media vuelta si encontraban los Sea Harrier. Los pilotos británicos jamás tuvieron que atacar a más de cuatro Mirage al mismo tiempo. Los Sea Harrier resultaron ser de muy fácil mantenimiento: el coeficiente de disponibilidad fue de casi el 95% al principio de cada jornada (resultado muy superior al que se hubiera obtenido con los Phantom si se hubiera dispuesto del portaaviones clásico Ark Royal). El mantenimiento de los aparatos prosiguió en cubierta, a la luz de los proyectores y de las linternas, incluso bajo el granizo y con fuerte mar. La mayoría de los pilotos pasaban de ocho a nueve horas al día volando o en alerta en sus aviones. Los británicos atribuyen la superioridad del Sea Harrier respecto al Mirage a sus rápidas aceleraciones. Los pilotos patrullando a 10.000 pies de altitud y una velocidad de 250 nudos tardaban sólo algunos segundos en volar a 600 nudos, descendiendo a ras de las olas.



flota, ataque contra objetivos terrestres, reconocimiento, lucha antibuque, apoyo logístico y enlaces.

Durante la campaña, la mayor parte de estas aeronaves fueron sometidas rápidamente a numerosas modificaciones. La medida más general consistió en proveer el mayor número posible de aparatos de una ametralladora orientable. En algunos helicópteros fueron instalados lanzacohetes y en los Lynx los primeros ejemplares de serie del misil aire-superficie Sea Skua. Fueron montados detectores de radares y lanzaseñuelos en los Chinook, y equipos destinados a perturbar el autodirector del misil Exocet en algunos Lynx y Sea King. Los Sea King de lucha ASM fueron desprovistos de parte de sus equipos especiales (salvo el torno del sonar); con esta reducción de peso, participaron en los transportes a tierra junto con los Commando.

El Atlantic Conveyor hundido por un Exocet llevaba cuatro Chinook de la Aviación y una escuadrilla completa de Wessex. Afortunadamente, un Chinook que estaba volando durante el ataque escapó al desastre. El aparato siguió siendo empleado durante toda la campaña, con un coeficiente de utilización que constituyó una plusmarca, aunque sus sistemas de navegación eran inutilizables y el aparato había perdido sus limpiaparabrisas. Aun cuando puede llevar normalmente un máximo de 44 hombres, despegó a veces con 81 pasajeros a bordo. Un Chinook capturado tras la rendición de las fuerzas argentinas fue puesto inmediatamente en servicio en la Aviación británica.

Los Sea King y Commando volaron casi sin interrupción y los mecánicos lograron mantener un coeficiente excepcional de disponibilidad. Para dar una idea de la intensidad de las operaciones aéreas, cabe mencionar el caso de la escuadrilla

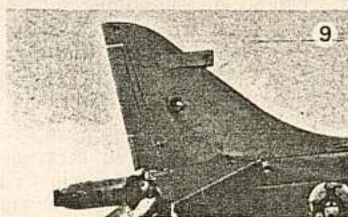
n° 820, cuyos Sea King efectuaron 1.560 horas de vuelo durante el mes de mayo, lo que corresponde a mantener en el aire dos aparatos durante las 24 horas del día. Cada piloto de helicóptero de la Marina efectuó en promedio 270 horas de vuelo, equivalentes a un año normal en tiempo de paz.

Se ha hablado muy poco de las misiones de transporte y apoyo llevadas a cabo por los Sea King y Commando en provecho de los comandos del SAS. Mucho antes del desembarco masivo en la bahía de San Carlos, varios destacamentos de esas tropas especiales fueron llevados a tierra en helicóptero para efectuar acciones de hostigamiento y reconocimiento. Cada noche, los comandos eran transportados de uno a otro punto del archipiélago y los argentinos jamás lograron interceptarlos.

Tan pronto como fue establecida la cabeza de puente de San Carlos, fue acondicionado en tierra un aeródromo auxiliar. Una pista corta de chapas metálicas, con área de estacionamiento y pista de circulación, así como depósitos de combustible enterrados, permitió a los helicópteros y aparatos Harrier reaprovisionarse de combustible y operar desde tierra.

Misiles aire-superficie Sea Skua, de modelo aún no homologado, fueron transportados a las Malvinas para ser instalados en los Lynx. De noche y con muy mal tiempo, uno de esos Lynx atacó con el Sea Skua dos patrulleros argentinos, hundiendo uno de ellos y averiando el otro. En Georgia del Sur, el submarino argentino Santa Fe fue alcanzado por un misil AS-12 y fuego de ametralladora, antes de ser averiado por dos granadas ASM lanzadas desde un helicóptero.

Los británicos perdieron en total dos Sea King Mk5, tres Commando, de diez a doce Wessex (cifras oficia-



8—Piloto argentino a los mandos de un A-4 Skyhawk. A la izquierda de lo que parece ser la insignia de la escuadrilla, se ven la silueta de un buque de escolta y una fecha (24 de mayo). Así pues, es probable que este aparato haya participado en la operación en la que fue hundida la fragata Tipo 21 Antelope (fotografía AP).

9—Durante el primer bombardeo del aeródromo de Port Stanley, una granada de 20 mm. perforó el plano de deriva de este Sea Harrier perteneciente al Hermes (fotografía Press Association).

riales de primera necesidad, en un trayecto de ida y vuelta de 12.800 km., lo que representa de 24 a 25 horas de vuelo. Fue batida otra plusmarca en esa ocasión: la de la duración de un vuelo de Hercules (28 horas).

## Reaprovisionamiento de combustible en vuelo

Los británicos efectuaron 600 reaprovisionamientos de combustible en vuelo, con aparatos de cinco modelos. En sólo seis casos, diversos fallos impidieron al avión reaprovisionado llegar a su destino. Algunas veces se encontraron al mismo tiempo en la isla de Ascensión hasta 15 aviones cisterna Victor, es decir, aproximadamente las dos terceras partes del número total de esos aparatos en servicio en la RAF. Para compensar su ausencia en el dispositivo de la OTAN, la Aviación estadounidense destacó provisionalmente varios KC-135 a Mildenhall (Gran Bretaña).

Aparatos Vulcan, Nimrod y C-130 Hercules fueron modificados para poder ser reaprovisionados de combustible en vuelo, mientras que otros Hercules y Vulcan fueron transformados en aviones cisterna. Los Vulcan no habían efectuado una operación de reaprovisionamiento desde hacía más de quince años; al verificar sus instalaciones, se descubrieron escapes en las tuberías y otras anomalías. En lugar de tratar de repararlos, se prefirió proveerlos de lanzas pertenecientes a los Victor.

Para ilustrar la rapidez de ejecución de los trabajos, cabe mencionar el caso de los Nimrod, cuya modificación fue emprendida el 18 de abril. Seis días más tarde, el primer aparato despegó para un vuelo de prueba. Se observó en esa ocasión cierta inestabilidad según el eje de guiñada, que fue inmediata y totalmente corregida. El 28 y el 29 de abril, fue probado en tierra el sistema de transvase de combustible. El día 30, se efectuó la prueba real de reaprovisionamiento en vuelo y, el 2 de mayo, ese primer Nimrod fue entregado con el sistema completo listo para funcionar. Trece Nimrod fueron modificados durante el conflicto y otros tres después del alto el fuego.

La sociedad Marshall, de Cambridge, instaló lanzas de reaprovisionamiento de combustible en siete Hercules y transformó otros cuatro aparatos del mismo tipo en aviones cisterna, montando una lanza sobre el piso de la cabina, con la salida del cono a través de la puerta trasera de carga.

Para aumentar el número de sus aviones cisterna, la Aviación hizo montar una lanza de reaprovisionamiento de combustible en la parte trasera de seis Vulcan. Nada indica cuánto tiempo estos aparatos serán mantenidos en servicio. Dentro de poco tiempo, la RAF dispondrá de otros nueve aviones cisterna VC 10, que British Aerospace está modificando en Filton, con lo que poseerá en total más de 40 aparatos de ese tipo. Posteriormente es probable que todos los VC 10 militares y civiles existentes sean transformados en aviones cisterna.

## Pérdidas de aeronaves argentinas

No ha sido cerrada aún definitivamente la lista de pérdidas argentinas, ya que las autoridades de Buenos Aires han anunciado hasta ahora la muerte de sólo 55 pilotos. Las estimaciones siguientes han sido facilitadas por los británicos.

Skyhawk	31	
Mirage	26	
Pucara	unos 23	(incluidos los capturados o destruidos en tierra)
Helicópteros	unos 18	(incluidos los capturados o destruidos en tierra)
Aviones de adiestramiento y ataque	5	
Aviones ligeros	3	
Skyvan	1	
Canberra	1	
C-130	1	
Total: unos 109		

Tales pérdidas fueron debidas a las causas siguientes:

Harrier	31
Misiles superficie-aire	41
Destrucción en tierra o captura	30
Otros motivos	7

Los 31 aparatos destruidos por los Harrier fueron los siguientes:

Mirage	19
Skyhawk	5
Pucara	2
Canberra	1
C-130	1
Helicópteros	3

Siete aeronaves fueron destruidas por «otros medios», una de ellas por un cañón naval de 114 mm. Las otras seis fueron derribadas por el fuego de armas ligeras o por aparatos propios.

les no publicadas), varios Lynx y Gazelle, y un Scout (este último derribado por un Pucara).

Para compensar estas pérdidas, el ministerio de Defensa ha encargado a Westland ocho Sea King y ocho Commando (cinco o seis de ellos provistos de un radar de vigilancia lejana), así como tres Lynx y cinco Gazelle.

## Aviones de apoyo logístico

Desde el principio del conflicto, la Aviación británica utilizó todos sus medios disponibles para tender un puente aéreo entre Gran Bretaña y la isla de Ascensión. La población de la isla pasó a más del doble en unos quince días. En los momentos más álgidos de la crisis, Wideawake se convirtió en uno de los aeropuertos más activos del mundo, con 400 movimientos de aparatos al día.

En el momento del alto el fuego, los Hercules y VC.10 de la Aviación británica habían efectuado más de 600 salidas, transportado a más de 5.000 pasajeros y 7.000 tm. de mercancías. Cuarenta misiones de transporte con reaprovisionamiento de combustible en vuelo fueron llevadas a cabo entre la isla de Ascensión y el archipiélago de las Malvinas para llevar correo y mate-



ESCUELA DE GUERRA NAVAL

TACTICA



EL CONFLICTO DE LAS ISLAS MALVINAS.

SEGUNDA PARTE: MISILES UTILIZADOS.

(Revista Internacional de Defensa 9/82)







# El conflicto de las Islas Malvinas

## 2ª parte: misiles utilizados

En la segunda parte de su estudio sobre el conflicto de las islas Malvinas, nuestros corresponsales en Londres consideran el papel que desempeñaron los misiles, sobre todo del tipo superficie-aire, y las medidas que deberá tomar la Marina británica para aumentar la eficacia de la defensa antimisil de sus buques. No se conoce aún muy bien el punto de vista argentino sobre este aspecto de las operaciones, y sólo se sabe que un avión Harrier y dos helicópteros Gazelle fueron derribados por misiles argentinos Blowpipe. Otro Harrier fue destruido por un misil superficie-aire, probablemente un Roland o, según otras fuentes de información, un Tigercat.

Gracias a la amable autorización de la revista Gunner, hemos podido reproducir aquí el relato de los combates tal como los vivieron los hombres de la batería «T» de defensa antiaérea. — La Redacción

En sus comentarios sobre los materiales empleados en esa ocasión, el ministro de Defensa británico declaró lo siguiente: «Deben emitirse juicios muy prudentes, sobre todo a propósito de las operaciones antiaéreas. Habrá que determinar con certeza qué sistema de arma destruyó tal o cual objetivo. Los sirvientes de varias armas pudieron declarar haber alcanzado el mismo blanco, ya que todas ellas disparaban contra los atacantes que estaban a su alcance. Por consiguiente, será necesario efectuar un análisis complementario para disipar las dudas. Deberá ser determinado asimismo en qué medida nuestros propios sistemas de arma limitaron los

efectos de los ataques enemigos. En lo referente a los fallos hay que esclarecer sus causas...

En una evaluación provisional, cabe afirmar que los principales sistemas de arma superficie-aire destruyeron los aparatos siguientes: *Seawolf*: 5; *Sea Dart*: 8; *Seacat*: 6; *Blowpipe*: 8; y *Rapier*: 13.

Con objeto de obtener el mayor efecto disuasivo, los misiles fueron lanzados por los buques desde una distancia equivalente a su alcance máximo. Los argentinos conocían perfectamente la potencialidad del *Sea Dart*, pues su Marina posee también este misil. Según el ministerio de Defensa británico, esto obligó a los pilotos enemigos a atacar

desde tan pequeña altitud que numerosas bombas cayeron sin estallar, pues no hubo tiempo suficiente para armarlas.

También quedó patente la eficacia de los sistemas suelo-aire. Sin embargo, el *Rapier* erró a veces el blanco y el *Blowpipe* resultó demasiado pesado para ser transportado a gran distancia llevándolo a la espalda. Por este motivo, las tropas británicas utilizaron igualmente algunos misiles suelo-aire *Stinger*, más ligeros que el *Blowpipe*. El

ministerio de Defensa considera que las enseñanzas extraídas del conflicto confirman las críticas expresadas anteriormente contra este misil: al parecer, uno solo de los cuatro *Stinger* disparados dio en el blanco (y el avión destruido lo fue quizá por otras armas). Los otros tres no encontraron su objetivo.

torre reactor) desempeñó un importante papel de disuasión contra los ataques a mediana y gran altitud. Aunque este misil no fue concebido para detener oleadas de aviones aproximándose a pequeña altura, parece ser que derribó ocho aparatos enemigos. La tripulación del destructor *Coventry*, atacado por una formación de cuatro A-4 *Skyhawk* argentinos, derribó los dos primeros aviones con sendos *Sea Dart* y la bomba lanzada por el tercero dio en el blanco.

Durante este combate, hubo un defecto de funcionamiento en el mecanismo de carga del lanzador *Sea Dart* del *Coventry*: falló el cierre automático de las puertas antisoplo que protegen la reserva de misiles en el instante del disparo. Para remediarlo, hubo que cerrar las puertas con la mano, por lo que no se podía disparar hasta que el sirviente se hubiera retirado.

### Sea Dart

Como arma de defensa de zona, el *Sea Dart* (propulsado por un esta-

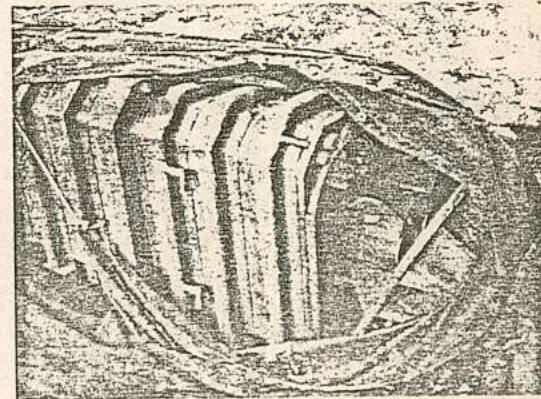
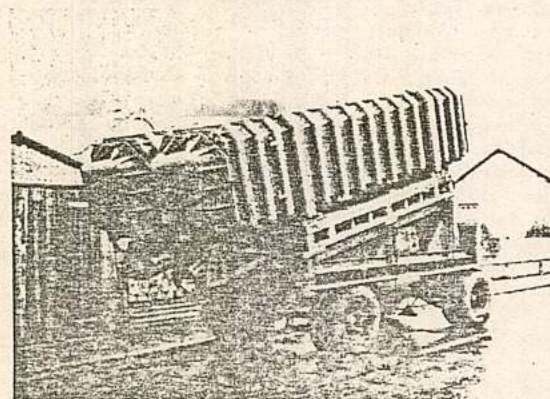
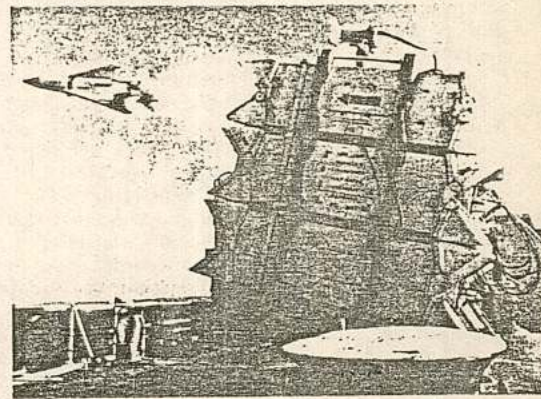
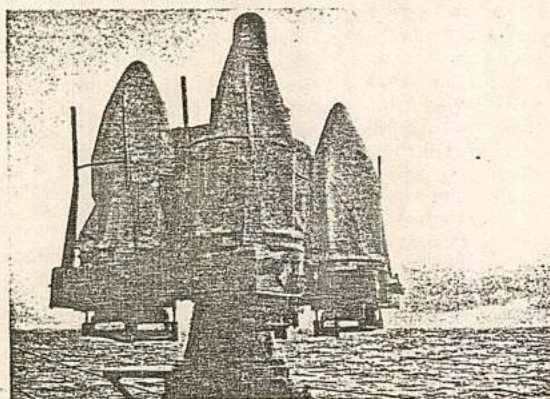
(sigue en la página 1154)

► Lanzador Seacat de Short, instalado a bordo del *Fearless*. Los montajes Seacat utilizados en las operaciones del Atlántico Sur eran de tres tipos. Con este sistema de arma fueron destruidos seis aparatos enemigos. (Fotografía tomada por el capitán D. Nicholls, de la Marina británica)

► Las fragatas Tipo 22 *Broadsword* y *Brilliant* estaban armadas con misiles de pequeño alcance *Seawolf*. Estos sistemas destruyeron cinco aviones enemigos y se observó que los pilotos argentinos evitaban acercarse a esos buques.

► Contenedores de lanzamiento de misiles MM.38 *Exocet*, destinados a ser utilizados desde tierra y capturados en Port Stanley tras la rendición de las fuerzas argentinas. Durante los combates entorno a la capital del archipiélago, un sistema idéntico dañó el crucero ligero *Glamorgan*. (Fotografía: P. Ramsbotham)

► Misil argentino MM.38 *Exocet* alojado aún en su contenedor. Estas armas estaban instaladas anteriormente en buques de guerra y fueron trasladadas a tierra. Los argentinos intentaron disparar dos de ellas. Una sola funcionó y alcanzó el *Glamorgan*. (Fotografía tomada por el capitán D. Nicholls)

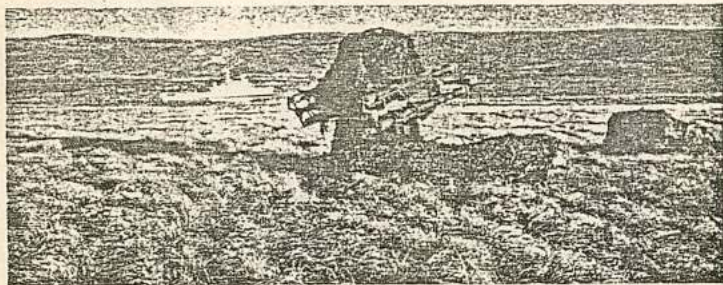




Hoy 29 de junio, entre los cascotes y escombros de lo que fue la estación meteorológica de Port Stanley, cuesta trabajo evocar los acontecimientos de las doce últimas semanas sin hacer otras consideraciones. Para el personal de la batería «T», ese período de tres meses estuvo lleno de emociones y experiencias vividas, no todas agradables o placenteras.

Embarcamos rápidamente en el LSL (Logistic Landing Ship) *Sir Geraint* (unidad auxiliar de la Marina). Tras varios días de espera, nos hicimos a la mar el 6 de abril de 1982 y el comandante de nuestra batería efectuó el viaje en el *Fearless*. Desde el primer día y hasta desembarcar en San Carlos (islas Malvinas) el 21 de mayo, la batería siguió un programa completo de

*Unidad de tiro Rapier colocada en batería sobre una cresta que domina la bahía de San Carlos. Los radares Blindfire empleados normalmente con el Rapier son incompatibles con otros tipos de radares, por lo que fue necesario utilizar métodos de puntería visual. (Fotografía tomada por el capitán D. Nicholls)*



## Los nuevos sistemas antimisil de la Marina británica

El nuevo portaaviones *Illustrious*, cuya construcción finalizó antes de la fecha prevista, ha zarpado hacia el Atlántico Sur para relevar al *Invincible*, perteneciente a la misma clase de unidades. El *Illustrious* está provisto de dos sistemas de defensa cercana General Dynamics *Phalanx* para la defensa antimisil. Cabe recordar que los AM.39 (versión aire-superficie del *Exocet*) lanzados por aviones *Super Etendard* de la Marina argentina hundieron el destructor Tipo 42 *Sheffield* y el buque portacontenedores *Atlantic Conveyor*, mientras que un MM.38 *Exocet* disparado desde tierra alcanzó el crucero ligero *Glamorgan*. Tres destructores Tipo 42, que zarparán próximamente hacia las aguas australes, han sido provistos de dos montajes dobles Oerlikon GCM-A02 de 30 mm. Por último, la Marina ha encargado numerosos cañones monotubo Oerlikon GAM-801 de 20 mm., para instalarlos en diversos buques. Estas medidas son provisionales y en otoño próximo será efectuado un análisis comparativo completo de diversos modelos competidores de sistemas de defensa cercana para tomar una decisión definitiva al respecto. No obstante, se sabe ya que los buques de ciertas clases (en particular la proyectada fragata Tipo 23) estarán armados con la versión ligera del sistema de misil antimisil *Seawolf* de British Aerospace, asociada con nuevos radares.

El comité de programas del ministerio de Defensa había comenzado esta evaluación antes del conflicto y expresó ciertas reservas sobre la eficacia de la artillería, con relación a la de los sistemas de misiles de defensa puntual tales como el *Seawolf*. Hace tiempo que la Marina reconoció la necesidad de reforzar los medios de defensa de sus portaaviones contra los misiles y aviones desplazándose a pequeña altitud, que lograran salvar la barrera formada por los aparatos *Sea Harrier* y los misiles *Sea Dart*. Pero las dificultades materiales que representan la instalación tardía de un sistema de defensa y las indecisiones respecto a la elección de la versión ligera definitiva del *Seawolf*, impidieron que el *Invincible* se hiciera a la mar provisto de un sistema de defensa cercana o puntual. Durante el conflicto, British Aerospace propuso instalar provisionalmente el prototipo del *Seawolf* VM40 en el *Illustrious*, que estaba aún en construcción, mientras que Marconi ofreció una versión en contenedor del sistema completo *Seawolf* GWS25. En vista de la urgencia de la situación, la Marina prefirió montar de momento el sistema de artillería *Phalanx*.

El Admiralty Surface Weapons Establishment examinó detenidamente el *Phalanx* para estar seguro de que es compatible con los radares de a bordo, después de lo cual el ministerio de Defensa adquirió dos sistemas para el *Illustrious* y pasó un pedido condicional de dos ejemplares adicionales para instalarlos eventualmente en el *Invincible* con ocasión de su revisión general, cuando regresara de las islas Malvinas. El montaje de los dos sistemas *Phalanx* en el *Illustrious* duró unos quince días. Para simplificarlo al máximo y terminarlo a tiempo, los cañones fueron instalados en los únicos emplazamientos disponibles entonces, que no son los más adecuados para este sistema (uno de ellos en la parte de proa, junto al lanzador *Sea Dart*, y el otro a estribor, en el extremo trasero de la cubierta de vuelo). Si se confirma el pedido facultativo de dos *Phalanx* para el

adiestramiento. Dependíamos del 29º regimiento de comandos de artillería, que nos prodigó (en particular la 79ª batería, la batería de mando y el estado mayor) su generosa ayuda para adaptarnos rápidamente a las técnicas de combate en clima frío, a diversos aspectos anfibios. El *Rapier* puede ser transportado por aire, pero el traslado de cada destacamento requiere cinco viajes en helicóptero *Sea King*, sin contar el transporte de su vehículo de apoyo; además, la inexistencia de contenedor adecuado, tal como es utilizado con el *Light Gun*, impide normalizar las cargas. Las unidades de tiro habían sido cargadas en el interior del LSL, en la bodega de carros. Quienes conozcan el LSL comprenderán la dificultad que representa descargar las unidades de tiro y transportarlas hasta la plataforma de helicóptero. A bordo de nuestro buque, como en casi todos los demás, las bodegas, locales y espacios disponibles en cubierta estaban atiborrados de aprovisionamientos, vehículos y municiones, que debíamos retirar para poder sacar nuestros materiales. Durante nuestra estancia en la isla de la Ascensión, la mala suerte nos impidió adiestrarnos realmente en el tiro. No obstante, pudimos efectuar algunos ejercicios.

El viaje entre la isla de la Ascensión y la zona de interdicción alrededor de las islas Malvinas, y desde allí hasta nuestro punto de desembarco, transcurrió prácticamente sin incidentes, con el único inconveniente de la ausencia de nuestro comandante de batería, por lo que tuvimos una sola ocasión, el día D-3, para reunirnos todos y coordinar nuestros emplazamientos. Para cada uno de ellos, el RSRE de Malvern nos había entregado mapas que resultaron excelentes. No pudo ser reconocido el terreno antes del desembarco general. El plan del transporte por helicóptero, que se presentaba como una operación de lo más aleatorio, no comprendía menos de 63 viajes de ida y vuelta, sin contar el desembarco del estado mayor y las municiones de reserva. El desembarco fue algo inolvidable. Cuando

*Invincible*, ambos sistemas serán montados probablemente en salido. En lo referente a la solución definitiva, podría ser escogido el *Seawolf* ligero, pero su instalación obligaría a efectuar enormes trabajos. La Marina espera poder tomar próximamente una decisión al respecto, con objeto de aplicarla también en el *Ark Royal* antes que finalice su construcción.

El ministerio de Defensa había pasado otro pedido condicional de seis sistemas *Phalanx* para tres destructores Tipo 42 (*Newcastle*, *Liverpool* y *Glasgow*). Al no poder recibirlos en seguida, decidió montar en estos buques dos cañones bitubo Oerlikon GCM-A02 de 30 mm. a uno y otro lado de la chimenea, donde estaban instalados los botes salvavidas. La sociedad BMARC ha entregado a la Marina ocho montajes GCM-A02 (no se sabe a qué unidad están destinados los dos últimos), construidos y probados especialmente para poder ser integrados posteriormente en un sistema de dirección de tiro, aunque las piezas serán autónomas de momento. BMARC suministró igualmente numerosos cañones GAM-801 de 20 mm. provistos de un simple visor óptico, que reemplazarán o complementarán los de igual calibre, del modelo 1938, instalados en muchos buques británicos.

Como ha sido indicado anteriormente, no se trata más que de soluciones provisionales. Después de las evaluaciones y cuando hayan sido tomadas las decisiones finales, los sistemas *Phalanx* y GCM-A02 podrán ser transferidos a buques auxiliares o a los LPD *Intrepid* y *Fairless*. Según las informaciones disponibles actualmente, en otoño próximo comenzará la evaluación de los modelos competidores siguientes: nuevas versiones de *Phalanx*, provistas de cañones de mayor calibre (sin duda los General Electric GAU-12 y GAU-8 de 25 mm. o el GAU-13 de 30 mm.); el SGE-30 *Goalkeeper* de Hollandse Signaalapparaten y General Electric; el *Seaguard* de Contraves; y el nuevo sistema de defensa cercana VFM30 propuesto conjuntamente por Vickers Shipbuilding and Engineering, Marconi Space and Defence Systems y Ferranti Computer Systems.

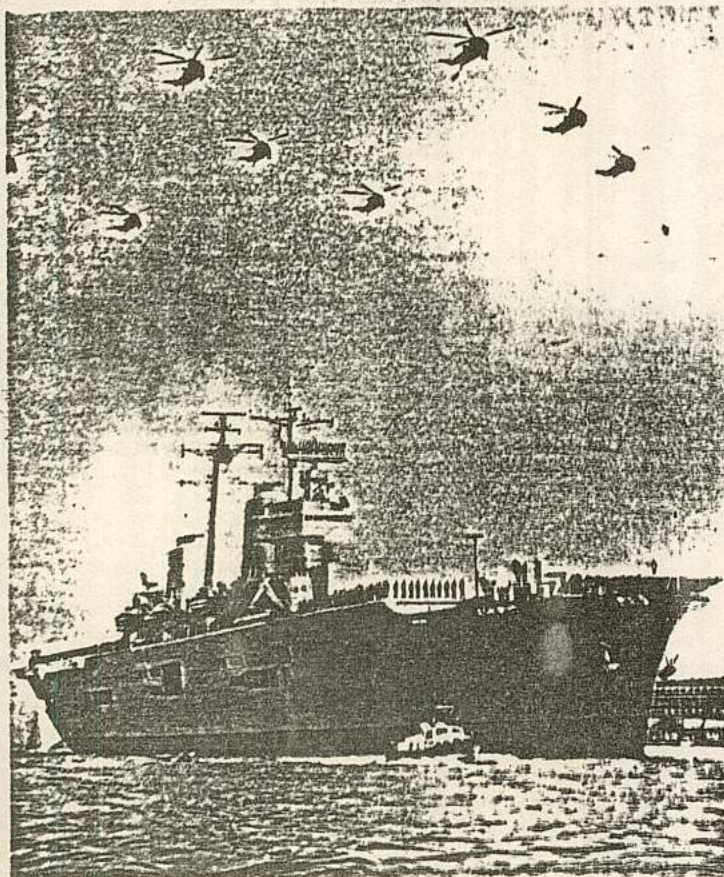
El VFM30 se compone de dos partes: un módulo de vigilancia montado en el tope de un mástil y otros de tiro (cuatro como máximo) idénticos conectados entre sí por un cable de distribución de datos. El cuadro de mandos centralizados ha sido concebido de manera a ser compatible con el centro de operaciones de cualquier buque. El sistema de vigilancia está basado en el radar de impulsos coherentes LM Ericsson 150HL *Sea Giraffe* que proporciona una cobertura total antimisil a pequeña y gran altitud incluso en presencia de ecos de mar o de perturbación. El módulo integrado de tiro comprende el cañón, un radar de seguimiento y un sistema de dirección de tiro. Está formado por los cuatro conjuntos siguientes: a) la pieza GAU-8 con su sistema de alimentación, que tira proyectiles subcalibrados con núcleo perforante de aleación de tungsteno, procedentes de un depósito corriente de municiones, a la cadencia de 4 200 disparos/minuto; b) el soporte del cañón, derivado del modelo General Electric EX-83 y construido por Vickers Shipbuilding and Engineering; c) el radar de seguimiento de Marconi Space and Defence Systems, accionado



...armos nuestras idas y venidas en helicóptero. Los comandos y batallones de paracaidistas estaban ya solidamente instalados en la cabeza de puente y los ataques aéreos llegaban a su apogeo. De todos modos, el día D desembarcamos diez unidades de tiro, aunque no exactamente en los emplazamientos previstos. El resto fue transportado a tierra el día siguiente, con una providencial mala visibilidad que impidió al enemigo efectuar ataques aéreos. Al principio, dudamos de nuestra capacidad para justificar las esperanzas puestas en el *Rapier*, pero, cuando la unidad de tiro 33C del sargento Morgan hubo borrado del cielo dos *Skyhawk*, saludada por una gran ovación procedente de la ladera de nuestra colina, comenzamos a recobrar confianza. Es inútil comentar hoy otra vez el episodio de la «avenida de las bombas», llamada «valle de la muerte» por los mismos pilotos argentinos, ni las posteriores peripecias de la campaña. Nuestro resultado final de 13 aviones derribados no refleja las dificultades del terreno en el que estábamos emplazados ni el perfil inhabitual de las misiones de ataque llevadas a cabo por los pilotos argentinos. Los amplios valles en U planteaban problemas de tiro hacia abajo y las baterías emplazadas en las crestas (sin hablar de la niebla ni de las nubes bajas), mientras que, para las instaladas más abajo, había numerosas limitaciones de ángulo de acimut y volumen de tiro. En condiciones normales, un caza de reacción volando a una velocidad de 500 nudos y una altitud de 50 pies constituye un objetivo difícil. Si se añaden sus frecuentes desapariciones tras los accidentes del terreno, la gran variedad de sistemas de arma disparando prácticamente en horizontal y el hecho de que fuera casi siempre imposible localizar visualmente los blancos situados a más de 3 km. de distancia, se comprenderá que en estas condiciones nuestra misión no guardara relación alguna con las películas proyectadas durante la instrucción ni los ejercicios de tiro efectuados en las islas Hébridas. Desarrollamos nuevos métodos, por ejemplo el consistente en disparar un misil antes de localizar el avión enemigo y guiarlo después hacia él mientras que se alejaba. No es extraño que un 40% de nuestros tiros certeros fueran logrados alcanzando el objetivo por detrás. Habida

por servomecanismos, que funciona en la banda K con una antena Cassegrain; el radar es solidario del soporte, pero sus movimientos son independientes; y d) un sistema de evaluación de la amenaza y designa-

*Finalizó rápidamente la construcción del portaaviones Illustrious, que zarpó inmediatamente hacia el Atlántico Sur para relevar a la unidad de la misma clase Invincible. Las enseñanzas extraídas del conflicto condujeron a la Marina británica a instalar en el Illustrious dos sistemas de defensa cercana Phalanx. En la fotografía se ven claramente las dos cúpulas características de este sistema montadas por la banda de estribor, una de ellas en la parte de proa y la otra en la de popa. La Marina reconoce que estos emplazamientos no son los más apropiados; como se puede apreciar en esta fotografía, el sector delantero de tiro está bastante limitado.*



cuenta de la vulnerabilidad de los sirvientes del *Rapier*, es sorprendente que no sufrieran bajas. Las unidades de tiro fueron atacadas algunas veces por los aviones y una de ellas resultó alcanzada por numerosos proyectiles de tipo shrapnel. Tuvimos mucha suerte. El análisis del desarrollo de los combates no finalizará antes que pase mucho tiempo; serán extraídas valiosas enseñanzas, entre las que cabe mencionar las siguientes

**Grado de preparación y adiestramiento:** El programa completo de adiestramiento desarrollado durante la larga travesía dio muy buenos resultados y permitió a los destacamentos de *Rapier* sobrellevar condiciones meteorológicas muy rigurosas. Pero no basta con que el soldado esté en buena forma física; ha de tener también una moral muy alta. En el caso de futuros conflictos, el adiestramiento deberá incluir ejercicios de larga duración, efectuados en condiciones difíciles.

**Diversificación del adiestramiento y conocimiento de otras armas:** Los hombres del 29º regimiento y de la 3ª brigada de comandos nos instruyeron perfectamente en todos los complejos aspectos de las operaciones antibajas. Es indudable también que nuestra asignación a la 1ª brigada de infantería y nuestra participación en todos sus ejercicios de utilización de las armas proporcionaron a los destacamentos de *Rapier* un conocimiento profundo de las tácticas de la infantería, lo que resultó primordial. Por otra parte, inversamente, es obvio que todos deberían conocer más a fondo la teoría y la práctica de la defensa aérea en general y en particular con el *Rapier*. Cada vez que se presente la ocasión será imprescindible asociar en los mismos ejercicios las baterías de *Rapier* con las unidades de otras armas a las que estén asignadas. Los ejercicios independientes son muy poco útiles para los destacamentos.

Para el porvenir, puede ser interesante observar que las unidades de defensa aérea se cuentan entre las primeras que entraron en acción y serán, con mucha diferencia, las últimas que se vayan. Poseemos un material excelente y de eficacia comprobada, que funcionó casi continuamente hasta el límite de sus posibilidades...

ción de las armas, y un sistema de dirección de tiro, que comprende tres pequeñas calculadoras Ferranti M700/40 *Argus*.

Cuando el dispositivo de vigilancia detecta una amenaza, el módulo de tiro se orienta en la correspondiente dirección, y el cañón se mantiene solidario con el radar de seguimiento. Ambos efectúan simultáneamente una exploración en elevación. Una vez que el radar ha localizado el objetivo, se fija en él mismo y se independiza del cañón, que dispara una breve ráfaga de referencia. El radar detecta el chorro de agua levantado por los proyectiles y la calculadora determina la corrección de tiro necesaria. La pieza hace fuego automáticamente e interrumpe el tiro cuando el sistema de evaluación de la amenaza considera que el objetivo ha sido destruido. Al final de la secuencia, el radar se alinea de nuevo y queda solidario con el cañón. En abril y julio pasados fueron probadas respectivamente las municiones y la operación de detectar el chorro de agua.

Por considerar seguramente que el calibre de 20 mm. era insuficiente, la Marina británica efectuó una primera evaluación del cañón *Sea Zenith* de 25 mm. del sistema *Seaguard*. Está previsto que analice más detenidamente este material en octubre próximo. Si la Marina escogiera el *Sea Zenith*, BMARC produciría el cañón y la munición, y efectuaría el montaje final. Los representantes de la sociedad afirman que la solución de reemplazar el cañón *Gatling* con cuatro tubos independientes ofrecería muchas ventajas, en particular la de reducir los riesgos de incidente de tiro. El *Sea Zenith* dispara normalmente ráfagas de 92 a 102 proyectiles (1,2 seg. de fuego).

Como ha sido indicado anteriormente, el sistema GWS26 *Seawolf* será escogido sin duda como medio de defensa puntual de la futura fragata Tipo 23. Puesto que no ha sido previsto otro sistema de defensa cercana para este buque, el *Seawolf* será probablemente de lanzamiento vertical.

El GWS26 llevará un nuevo radar de vigilancia y discriminación de objetivos Tipo 996, en lugar del Tipo 967/968 como el asociado con el sistema GWS25 (instalado en las fragatas Tipo 22 y algunas de la clase *Leander*). En los próximos meses, el ministerio de Defensa publicará «someras especificaciones» (un simple pliego de condiciones, con algunos detalles adicionales) del Tipo 996, del que se calcula que harán falta 30 ejemplares (de dos tipos). Serán presentados sin duda tres modelos competidores: el de Marconi Radar Systems, uno de Plessey y el SMART (Signaal Multibeam Acquisition Radar for Targetting) de Hollandse Signaalapparaten. Si fuera escogido este último, la sociedad británica MEL se encargaría de gran parte de la producción en serie. Por otra parte, es posible que el futuro radar Tipo 996 reemplace el Tipo 992 de los destructores Tipo 42 en servicio.

En las fragatas Tipo 22, el *Seawolf* GWS25 Mod. 0 estándar será substituido con la versión ligera GWS25 Mod. 3. En esta última, el radar de seguimiento Tipo 910 Mod. 0 ha sido reemplazado con el modelo de Marconi Tipo 911 (ex ST806SW). El Mod. 1, cuyo programa ha sido suspendido, comprendía un radar *Blindfire* y otro Tipo 910, mientras que el Mod. 2 era la versión VM40 del *Seawolf* que rechazó la Marina británica. Por otra parte, el Mod. 3 será protegido de manera más eficaz contra la perturbación. Tan sólo cinco de las diez fragatas de la clase *Leander* «de casco ancho» (las más recientes) serán provistas de la versión GWS25 Mod. 0 del *Seawolf*, en lugar de la nueva variante ligera del lanzador



British Aerospace defiende el sistema *Sea Dart* subrayando la antigüedad de los destructores Tipo 42 presentes en el Atlántico Sur y alegando que estaban provistos de sistemas de combate y radares anticuados. Hacia falta tanto tiempo para obtener los datos de objetivo y transmitirlos al sistema de dirección de tiro que, en muchos casos, los atacantes, que se acercaban al buque volando muy bajo, habían desaparecido ya de las pantallas de vigilancia cuando el sistema se encontraba por fin listo para disparar.

Otro motivo de fallos fue el mal tiempo. En la zona de operaciones, los buques tuvieron que hacer frente a un mar de fuerza 7, superior a los límites de empleo fijados en los requerimientos que dieron lugar a la realización del *Sea Dart*. En las pantallas de radar, los ecos de mar impedían detectar con precisión los blancos situados hasta más de 16 km. de distancia.

### Seacat

Los buques que participaron en las operaciones estaban provistos de tres tipos de instalaciones del misil subsónico *Shorts Seacat*, desde la más sencilla con un sistema óptico de dirección de tiro, hasta la más completa con la dirección de misil integrada en los radares de a bordo. Además de producir un efecto disuasivo, parece ser que los misiles *Seacat* derribaron seis aparatos enemigos.

### Seawolf

El sistema de misil de pequeño alcance *Seawolf* estaba instalado en las fragatas *Broadsword* y *Brilliant*. Esta arma resultó muy eficaz y los británicos lamentan solamente que no pudiera ser utilizada desde mayor número de buques. Oficialmente, el *Seawolf* destruyó cinco aviones y se observó que los pilotos argentinos evitaban aproximarse a las fragatas Tipo 22. Durante los primeros combates, cuando varios atacantes se aproximaban al mismo tiempo desde distintas direcciones, la calculadora tardaba en fijarse en un objetivo y apuntaba el lanzador según un ángulo de acimut intermedio entre los de todos ellos, por lo que era necesario empezar otro ciclo de designación y seguimiento. Los ingenieros que se hallaban a bordo corrigieron rápidamente este defecto modificando los programas informáticos.

Por otra parte, se halló un defecto importante en las características del sistema. El *Seawolf*, concebido como medio de defensa puntual, puede atacar solamente objetivos que se aproximan al buque lanzador. Las fragatas *Brilliant* y *Broadsword*, encargadas de proteger los portaaviones *Hermes* e *Invincible*, se apostaron de manera a interceptar la amenaza más probable. Por no poseer un alcance suficiente, sus misiles *Seawolf* no pudieron derribar los misiles argentinos lanzados desde otra dirección.

### Sea Skua

Los misiles antibuque *Sea Skua*, lanzados desde helicópteros, fueron



▲▲ Infante de Marina británico llevando un misil Blowpipe en el hombro. Aunque esta arma ha sido objeto de ciertas críticas relativas a su excesivo peso, se le atribuye la destrucción de ocho aviones enemigos. Los argentinos poseían también el Blowpipe, que les permitió derribar un Harrier.

▲▲► Fotografiado desde el Fairless, el destructor Tipo 42 Exeter lanza sus misiles Sea Dart contra un aparato argentino Lear Jet que estaba reconociendo el dispositivo británico en la zona de San Carlos. Al parecer, el Lear Jet fue alcanzado.

▲ Lanzador argentino de misiles Tigercat. (Fotografía tomada por el capitán D. Nicholls)

▲► Unidad de tiro argentina Roland, con sus radares de localización y seguimiento plegados, y los tubos lanzamisiles bajados. Al parecer, un aparato británico Harrier fue derribado por el Roland durante el conflicto. (Fotografía tomada por el capitán D. Nicholls)

utilizados por primera vez en operaciones reales durante el conflicto de las islas Malvinas, logrando hundir un buque y dañar gravemente otro más. El 2 de mayo, los patrulleros argentinos *Alférez Sobral* y *Comodoro Somellera* hicieron fuego contra un helicóptero *Sea King* de la Marina británica; fueron atacados a su vez por dos *Lynx* del *Coventry*, cada uno de los cuales lanzó dos *Sea Skua*. El *Comodoro Somellera* (800 tm. de desplazamiento y 44 m. de eslora) se hundió y el otro buque resultó gravemente dañado. El combate tuvo lugar con muy mal tiempo y fuerte mar, por lo que los objetivos eran muy poco visibles.

### Blowpipe

Habían sido criticados, al parecer de manera injustificada, el excesivo peso y la insuficiente precisión del misil *Blowpipe*, que se dispara apoyando el lanzador en el hombro. Posteriormente se comprobó que, con esta arma, los británicos habían logrado destruir seis aviones *Pucara*, dos *Mirage* y un *A-4 Skyhawk*. [En las estadísticas publicadas posteriormente figura un total de ocho (en lugar de nueve) aviones argentinos derribados por el *Blowpipe*. — La Redacción]

El *Blowpipe* no es más pesado que la ametralladora británica estándar, pero, a raíz de la pérdida de los helicópteros de apoyo logístico *Wessex* que llevaba el *Atlantic Con-*

veyor, los misiles tuvieron que ser transportados a la espalda durante la larga marcha hacia Port Stanley.

Fueron utilizados numerosos *Blowpipe* durante los combates librados en la zona Sur alrededor de Goose Green y Darwin. Según los miembros del 2º batallón de paracaidistas, esos misiles desempeñaron un papel decisivo contra los aviones de ataque aire-suelo, en particular los *Pucara*.

### Rapier

Las baterías de misiles antiaéreos *Rapier*, de gran importancia para las fuerzas terrestres, fueron desembarcadas sin ser debidamente revisadas después de un viaje por mar que duró ocho semanas. Al parecer, la corrosión marina planteó al principio ciertos problemas, consistentes en particular en algunos fallos de los grupos electrógenos. Por otra parte, en el aspecto operacional, se produjeron ciertas interferencias entre los dispositivos electrónicos del *Rapier*, los de los buques y de IFF. Nunca se había pensado que el *Rapier* tuviera que defender algún día los buques de la Marina. En estas condiciones, hubo que prescindir del radar de dirección de tiro y fiarse de la puntería visual. Entre otros pequeños defectos observados entonces, cabe mencionar la formación de hielo en los visores, que se intenta suprimir con una circulación forzada de aire caliente.

Pese a todas estas dificultades y a las severas condiciones de empleo del *Rapier*, hay que reconocer su gran eficacia, ya que este sistema de arma derribó 9 o quizá 13 aviones enemigos.

Después de ser llevadas a tierra las baterías dispararon durante algunos días en dirección al mar y hasta el límite de su alcance práctico, a menudo con cierto ángulo de depresión desde las crestas de las montañas, por encima de las tropas atrincheradas en las laderas.

A raíz del ataque argentino contra los LST *Sir Tristram* y *Sir Galahad*, y debido a la ausencia de cobertura aérea durante las operaciones de desembarco, se dijo que la puesta en batería del *Rapier* era demasiado lenta. Esta acusación está desprovista de fundamento. Según los representantes de British Aerospace, la ausencia de reacción de los *Rapier* durante el ataque no fue debida al hecho de que se requiriera más de 15 minutos para ponerlos en batería, sino al que se utilizara un solo helicóptero para llevarlos a tierra, y que el ataque tuviera lugar precisamente durante el transporte de las baterías. Si los argentinos hubieran atacado de nuevo al cabo de poco tiempo, las pérdidas habrían sido aún más cuantiosas, pues la ausencia de cobertura aérea se prolongó durante casi una hora. El único helicóptero todavía disponible estaba ocupado en recoger a los supervivientes de los dos buques incendiados.





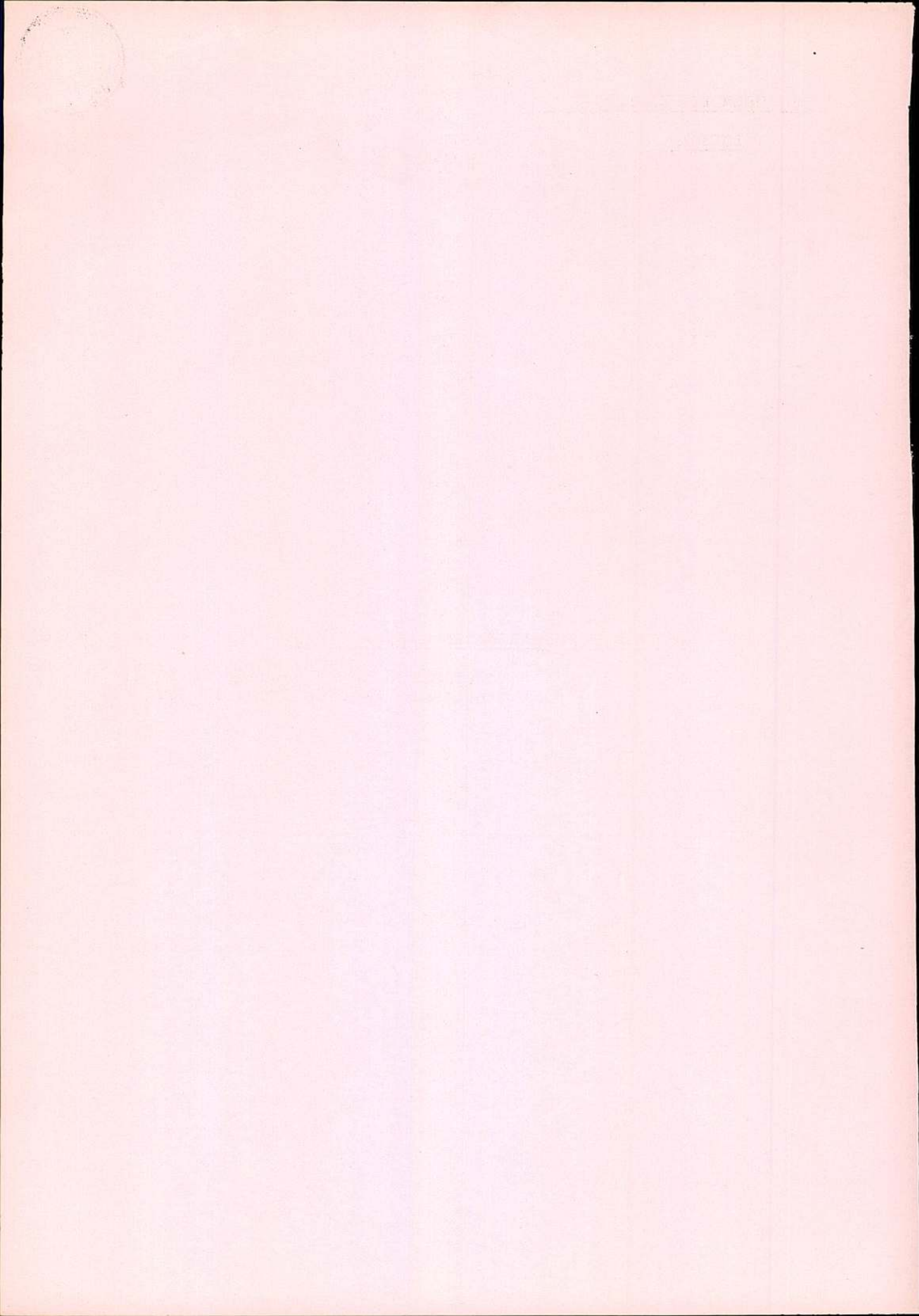
ESCUELA DE GUERRA NAVAL

TACTICA

GUERRA ANTISUBMARINA EN LAS MALVINAS

(Información de la Sección de Inteligencia del EMA. de fecha 13 OCT. 82)







GUERRA ANTISUBMARINA EN LAS MALVINAS

(E.M. DE LA ARMADA - Sección de Inteligencia. 13 OCT 82)

El diario "Washington Post" publica el siguiente artículo, de George C. Wilson.

Es posible que por lo menos un submarino argentino propulsado por motores diesel haya eludido a las fuerzas aéreas y marinas inglesas y que haya disparado torpedos errados contra los buques de la Marina Británica, durante la batalla por las Islas Malvinas, según informaron la semana pasada funcionarios del gobierno norteamericano.

Dijeron que los datos disponibles -que reconocen como fragmentarios- sobre el juego del gato y el ratón que se desarrolló bajo el mar durante el conflicto, sugieren -aunque no demuestran- que un submarino 209 argentino, construido por Alemania Occidental evadió las sofisticadas defensas antisubmarinas de la Marina Inglesa.

No puede descartarse, dijo un funcionario gubernamental, basándose en los informes posteriores a las acciones bélicas en las Malvinas, que hubo muchísimos contactos por sonar, que los ingleses dispararon muchas armas antisubmarinas y que hay algún indicio de que allí estuvo un 209.

El que un silencioso 209 hubiera podido penetrar en medio de la flota británica es más que una mera anécdota de la miniguerra por las islas. Podría convertirse en un factor de una próxima decisión norteamericana sobre armamentos.

Algunos partidarios de obligar a la Marina de EE.UU. a comprar submarinos alemanes actualizados, además de los más costosos submarinos nucleares de ataque, están tratando lo que el Pentágono considera todavía como informes no concluyentes sobre la penetración del submarino argentino, como una prueba de que los submarinos diesel todavía pueden eludir a las Marinas modernas.

Esta afirmación se contiene en un documento atribuido, pero no firmado, a la empresa germano-occidental de astilleros Thyssen Nordseewerke, que está tratando de vender sus submarinos diesel TR 170(sic) a EE.UU. El documento, enviado al Congreso y a por lo menos un periódico, dice -sin citar fuentes- que el submarino de propulsión diesel San Luis, un 209 alemán construido

.../por la ...



por la Howaldtswerke Deutsche Werftill estuvo en la mar y sumergido durante más de un mes hasta que pudo atacar a la escuadra inglesa.

Se cree que el San Luis llevó a cabo un ataque el 5 de Mayo (tres días después del hundimiento del General Belgrano) y disparó torpedos filodirigidos contra uno o más objetivos, uno de ellos supuestamente el portaaviones "Invencible".

Según esta versión, y afortunadamente para los ingleses, un fallo inexplicable impidió que estallaran los torpedos.

Después del ataque, -prosigue el documento- el San Luis estuvo sometido a continuo ataque antisubmarino de barcos y helicópteros durante 72 horas, pudiendo eludirlo gracias a su eco sonar, muy reducido, su maniobrabilidad y su operación extraordinariamente silenciosa.

El submarino regresó ileso a puerto. Pese al fallo de los torpedos, el buque mismo se portó maravillosamente y demostró su eficacia contra una de las mejores organizaciones de guerra antisubmarina de la OTAN.

Un especialista de defensa gubernamental que recibió el documento, dijo que la empresa Thyssen Nordseewerke basaba su información en los informes recibidos de los militares argentinos. Argentina ha pedido seis submarinos diesel TR 1800 (sic) a los astilleros alemanes y tiene estrechos lazos con dicha empresa. Un alto funcionario de la defensa norteamericana dijo que existen indicios de que un submarino 209 argentino tuvo a su alcance a la flota británica durante la crisis de las Malvinas, lo que llevó a los analistas a suponer que habría disparado algunos torpedos. No pudo saberse que les había sucedido a los torpedos, aunque es posible que fueran defectuosos y no estallaran. Así ocurrió con más de la mitad de las bombas lanzadas por la aviación argentina contra los buques ingleses durante la guerra de las Malvinas.

Es posible que los rumores de que un submarino diesel de hace ocho años penetrara las sofisticadas defensas antisubmarinas de la Royal Navy, despertaran renovado interés en el Congreso en comprar este tipo más económico de submarino. El submarino de ataque de la clase "Los Angeles", de propulsión nuclear cuesta 867 millones de dólares, mientras que la Nordseewerke ha hablado de fijar el precio de su submarino diesel TR 1700 (sic) en unos 100 millones de dólares.

El Senador Gary Hart (demócrata, Colorado), vocal del Comité del Senado para las Fuerzas Armadas, ha sido el principal partidario en el Congreso

.../de comprar una...



de comprar una combinación de submarinos de ataque nucleares y diesel para hundir otros submarinos o buques de superficie. Según él, debería adquirir por lo menos 14 tipos diesel la Marina de EE.UU. para aprender los mejores medios de combatir estos modernos submarinos no nucleares que se mueven silenciosamente. El que logre oír primero al otro es lo que decide, frecuentemente, quien vive y quien muere en las profundidades.

Los dirigentes de la Marina norteamericana vienen resistiéndose firmemente a una mezcla de submarinos de ataque nucleares y diesel, afirmando que debe preferirse la gran autonomía de los nucleares y que sean los aliados quienes compren los diesel para combates más cerca de sus puertos.

No obstante, el Congreso insiste en que la Navy evalúe las posibilidades de los submarinos diesel. El informe secreto, que acaba de entregarse en el Congreso, llegó a la conclusión de que los diesel no tienen sentido para la Armada de Estados Unidos.

El Secretario de la Marina, John F. Lehman Jr., en una carta que acompaña al informe, escribió que, en vista de las conclusiones negativas, "no tengo planes para ninguna acción adicional con respecto al ulterior desarrollo o la adquisición de submarinos diesel-eléctricos.

Fecha de redacción: 07.10.82







ESCUELA DE GUERRA NAVAL

TACTICA



INFORMES DEL RENDIMIENTO OPERATIVO DE LOS MISILES  
Y AVIONES UTILIZADOS POR LOS INGLESES.







BRITISH AEROSPACE DYNAMICS IN THE SOUTH ATLANTIC

by

K.P.

If we wish to understand how missiles performed in and around the Falklands we should rely more upon broad judgement than on close statistical analysis, for war is more an art than a science. It is a muddle in which the innate quality of men and equipment is just one factor among the many which determine performance. These factors are seldom capable of precise quantification and a number of battles, including Waterloo, would read strangely on a computer printout.

When we apply this broad judgement we see that the record of British Aerospace missiles in the South Atlantic is most satisfactory - to say the least. The record, compiled from all available evidence, indicates that the missile defence accounted for some 60% of the aircraft which ran its gauntlet. That is an unqualified success as no enemy can afford to suffer such attrition. Moreover, although attacks were pressed home with extraordinary valour, and a number of ships were lost in protecting the high value targets such as carriers and converted liners, these latter remained unscathed even when moved close in shore. Some missile systems were apparently more useful than others but it will be seen, when each is viewed against the complete scenario, that all played a successful part.



Sea Dart, the long range ship mounted surface-to-air and surface-to-surface missile, providing the first layer of defence, was in the inventory of both sides. It accounted for a significant number of aircraft and the Argentinians, knowing its characteristics, avoided it as far as possible. Argentine surveillance aircraft kept well away and thus were unable to provide the information which attacking aircraft needed if they were to single out the higher value targets. Attacking aircraft were forced by Sea Dart into flight profiles they might otherwise have avoided, to levels which the Harriers could wrest the advantage, into the lethal zones of other weapons and situations which caused them difficulties over bomb fuzeing. In short, Sea Dart was most successful and was an important part of the defence of the Task Force even when silent.

Seawolf became a household name overnight. This ship mounted system designed for close defence against Russian missiles was devastating against the highest performance aircraft making suicidal attacks and was programmed to cope, also, with Exocet. Without the long in-service experience of Rapier it was not surprising in the heat of battle that the need for certain minor improvements soon became apparent. It says much for the flexibility and potential of Seawolf that the software of the computer controlled system assimilated the changes overnight.





To compare missile expenditure with aircraft hits is meaningless if taken out of context. It is important to ask the correct questions and the test of a weapon in battle is the damage inflicted. There may, however, be valid technical reasons for wanting to examine the actual kill ratio, missile to aircraft, but unless a good deal of supporting information is available, misleading conclusions may be drawn. It would, for example, be necessary to know which aircraft were engaged by more than one launcher or even more than one missile system and such information is unlikely to be available. It is sufficient to note that none of the ships armed with Seawolf were sunk or seriously damaged. It soon became apparent that Argentinian pilots, given the choice, attacked other targets. Seawolf is clearly needed as an essential part of every Navy's inventory to provide lethal point defence.

Rapier, the well known low level system in worldwide use, was next into action when it was unceremonially bundled ashore in the manner of all amphibious assaults. After eight weeks at sea and with no opportunity of shaking down, it and its operators, at war for the very first time, were put to the test. And what a test. It involved hours of waiting at immediate notice in appalling conditions, a trial in itself of serviceability, and then, when the

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.... /weather cleared,



weather cleared, dealing with waves of aircraft skimming the surface at 400 knots or more and, because of the terrain, in view only intermittently. No other existing land based system could have coped; the circumstances would have defeated a system dependant upon radar; lack of warning would have beaten all but those with the highest rate of slew, while proximity fuzes would have triggered over our own troops or ships, so low were most targets. Rapier succeeded and land operations proceeded in spite of the valiant efforts of the Argentine Air Force.

The varied kill rate of Rapier illustrates again the futility of comparing, out of context, missile expenditure with number of aircraft hit. On days when the action was largely over the sea, Rapier was firing at targets virtually out of range, and it was tactically correct to provide this support to the Fleet even if the results did not measure up to the high success rate achieved when the action moved to the areas which Rapier was sited to defend.





Sea Skua, a helicopter launched sea skimming missile, had not even been declared operational when the Task Force sailed. It claimed the first modern missile success of the Falklands war (pace an AS12 launched against a submarine) when on an inky black night, in a storm and with a high sea state, the first operational firing sunk a patrol boat and crippled another. (With a lower sea state and thus a lower flight profile, it would, no doubt, have sunk both.) The record shows four ships attacked, one sunk and the other crippled. It is, of course, a missile designed to cope with small ships in seas less mountainous than the South Atlantic and, having passed the test there, it will clearly cope anywhere.

War demands flexibility and the Dynamics Group rose to the occasion in its support behind the scenes. Months were compressed into days when Sea Skua was hustled into the operational inventory. Other systems were provided with the backing essential for intensive use in an unfavourable environment. A number of difficulties with the Harrier's air-to-air missile, the American Sidewinder, were quickly solved. Moreover, the complicated task of fitting this missile to a quite different type of aircraft was completed with a successful test firing in the remarkably short time of two weeks.



To sum up. British Aerospace Dynamics Group provided the basic missile framework under which the Task Force succeeded. It was an air defence in depth which constrained the attacker when he was many miles from his quarry and reduced his chance of survival to about one in three when he attempted to close with his target. All of the systems worked well in the most demanding of environments, confirming them as the world beaters their many purchasers had already judged them to be.

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SEA HARRIER AND HARRIER OPERATIONS  
IN THE FALKLANDS CRISIS

RN SEA HARRIERS AND RAF HARRIER GR 3s proved their success in all roles - Sea Harrier FIGHTER/INTERCEPTOR, RECONNAISSANCE and STRIKE Harrier GR3 STRIKE, CLOSE SUPPORT and RECONNAISSANCE.

FIGHTER ROLE

Over 30 confirmed kills were attributed to the Sea Harrier, some three quarters of these being Mirage and A4 combat aircraft from medium level down to ultra low altitude.

This total may rise as more information becomes available. "Kills" are confirmed only if witnessed by another pilot and it was seen to blow up, crash into the sea or the pilot was seen to eject. Many other aircraft may never have reached their home base.

Sea Harrier demonstrated its effectiveness in the Interceptor role. The aircraft, its weapon system and the computer software, perfectly matched the Sidewinder's capability. The effectiveness of the 30mm cannon combined with the computed sighting was outstanding, accounting for a number of the air-to-air kills.

The Sea Harriers accounted for more than 40% of the total A.A.F. aircraft known to have been shot down. This is seen as vindicating the RN's principle of layered defence.

The raised cockpit giving good all-round view, and the Radar Warning Receiver to tell the pilot which radars were in the area and when his aircraft was being illuminated, gave the pilots great confidence in their ability to evade.

The ability to Vector the thrust In Forward Flight would also have assisted the pilots.

No Sea Harriers were lost in Air to Air Combat.



The Sea Harrier, using its Radar Warning Receiver and Blue Fox Radar, was able to provide total air superiority in the sea area around the Task Force.

#### STRIKE ROLE

The aircraft was very effective both by day and night in strikes against Port Stanley Airport and against installations in other parts of the Islands. Using its very powerful navigation and weapon system it was able to deliver bombs with high accuracy by day and night.

#### SERVICEABILITY

The reliability and maintainability of the aircraft ensured a high aircraft availability. Better than 80% availability was achieved even after a hard day's/night's flying and this was achieved with only a 20% increase in manpower to cope with a 3 fold increase in normal aircraft complement in the ships. Over 2000 Harrier operational sorties were flown during the operational period after entry to the TEZ, with sortie rate typically up to 6 per aircraft per day. Most sorties were 1½ hours in duration.

#### OPERATING FLEXIBILITY

The Sea Harriers and Harriers were able to refuel from other ships in the Fleet fitted with aft platforms. After the beachhead was secured at San Carlos, Harriers operated as required from shore and Sea Harriers also used shore-based facilities.

Due to the approach flexibility provided by vertical landing, recoveries were effected to the carriers from all angles in whatever direction suited the ship.

The Harriers operated in extreme weather conditions - high sea states, high winds and poor visibility. Pilots recovered satisfactorily to the deck in conditions of very low cloudbase and horizontal visibility of a few ship lengths.



#### INDUSTRY SUPPORT

The support provided by the UK aerospace industry to our South Atlantic efforts was remarkable, and underlines the necessity for maintaining a strong home-based defence industry.

The Kingston-Brough Division of BAe (Prime Contractor for the Harrier) for example delivered some 4100 spares items in the operational period, ranging from special bolts to complete 30mm gun pods.

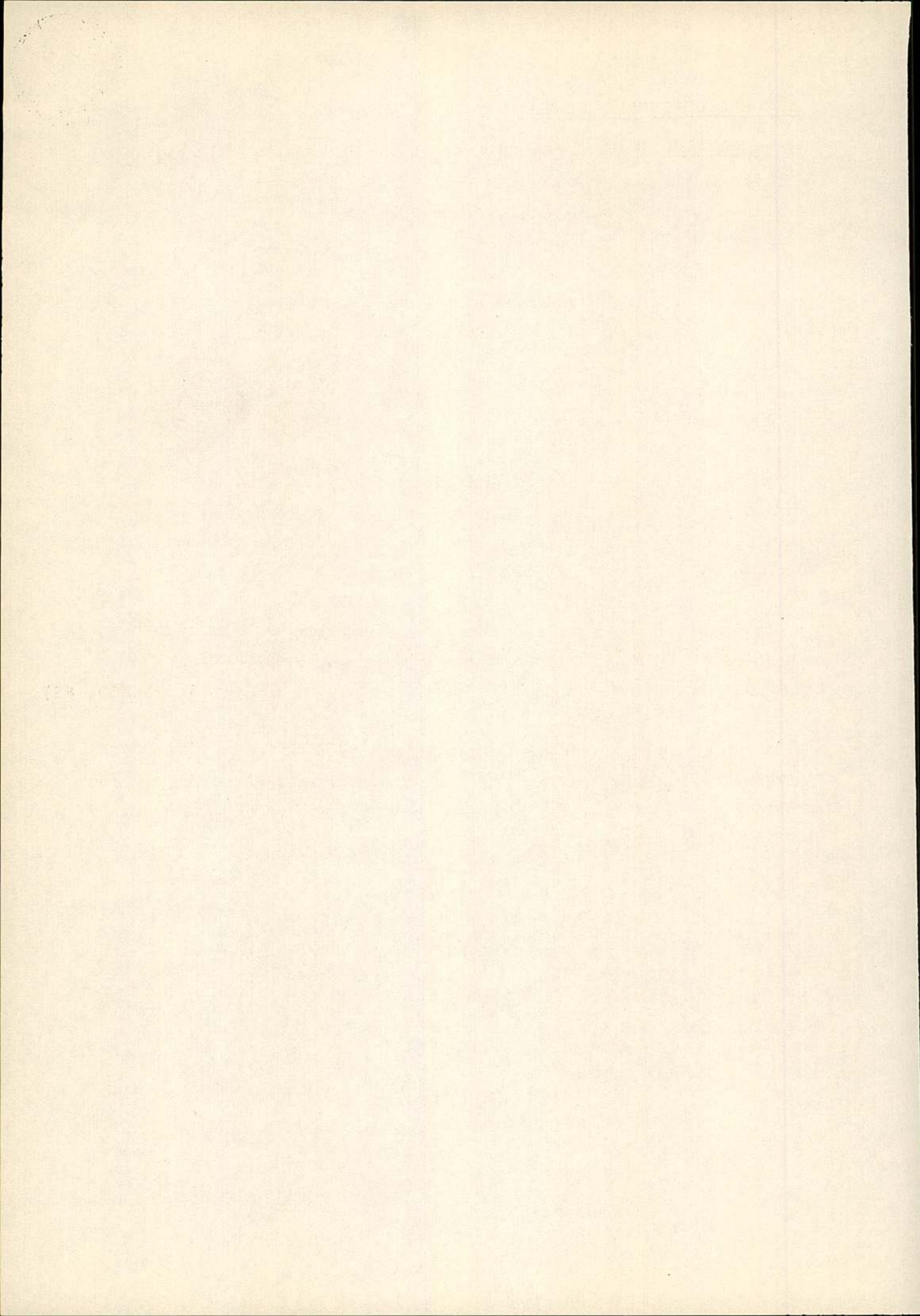
In a similar "normal" period typical spares deliveries would be only some 1500 items,

Additionally, BAe designed, proved, made and delivered almost 300 modification kits to extend and enhance both RAF and RN Harrier capabilities. Again a similar "normal" period would have provided only some 15 to 20 modification kits.

The response and support from employees was remarkable in respect of unsheduled hours and personal inconvenience, given unstintingly by both works and office personnel.

A unique contribution was the provision by K-B Division of a team of groundcrew plus pilot to assist the RN in the intensive training, on the Hunter TMk 8M, of the service pilots forming a new Sea Harrier Squadron at short notice.









ESCUELA DE GUERRA NAVAL

TACTICA

LOS SATELITES ESPIAS Y LA GUERRA DE LAS MALVINAS

(Revista Aeronáutica y Astronáutica AGO. 82)





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# LOS SATELITES ESPIAS *y la* GUERRA *de la* MALVINAS

MANUEL BAUTISTA ARANDA, Tte. Coronel Ingeniero Aeronáutico

Poco después de que la flota británica zarpase rumbo a las Islas Malvinas empezó a circular la noticia de que Rusia estaba proporcionando información al Gobierno argentino sobre la posición y movimientos de esta flota. Y también se indicó que los Estados Unidos facilitaban a Inglaterra una información parecida sobre la situación de los barcos argentinos, sobre los efectivos que habían desembarcado en las Malvinas y sobre su despliegue en estas islas.

Es difícil conocer ahora, quizá en el futuro se sepa con exactitud, la información realmente facilitada por

ambas potencias. Pero lo que sí es seguro es que tanto Rusia como los Estados Unidos, gracias fundamentalmente a sus satélites espías —o si se quiere utilizar una expresión menos llamativa, a sus satélites de reconocimiento— podían conocer los movimientos de ambas flotas y el despliegue de los efectivos terrestres. Y también es un hecho que, durante los dos meses y medio que duró la ocupación argentina de las islas, Rusia desplegó una actividad con satélites espías notablemente superior a la que es habitual en otros períodos que pudiéramos llamar tranquilos.

Sin entrar en consideraciones po-



líticas o militares sobre estas posibles ayudas de Rusia y de los Estados Unidos, vamos a limitarnos a examinar los satélites espías de ambas naciones que han estado sobrevolando el teatro de operaciones, los nuevos lanzamientos que han tenido lugar, las características técnicas de estos satélites y el tipo de información que pueden recoger cada uno de ellos.

Escribir sobre satélites espías es siempre difícil porque, debido al secreto militar que cubre estos temas, la información disponible es escasa, parcial y a veces hasta contradictoria. Pero, aun a riesgo de que alguno de los datos o cifras que se dan en este artículo no sean totalmente exactos, la información que se expone a continuación creemos que refleja bastante bien la realidad de los hechos.

Analicemos separadamente las actividades de cada potencia.

## ACTIVIDADES RUSAS

El 29 de abril, con ayuda de un cohete F-1, se lanza desde Tyuratam el *COSMOS 1.355* y se sitúa en una órbita de  $65^\circ$  de inclinación, 438 km de perigeo y 459 km de apogeo, es decir, con las características típicas de los satélites rusos destinados a la vigilancia de los océanos por medios pasivos.

Las actividades del *Cosmos 1.355* están estrechamente relacionadas con las del *Cosmos 1.337*, que fue lanzado el 11 de febrero, y posiblemente con las del *Cosmos 1.306*, puesto en órbita el 14 de septiembre del año anterior. Todos ellos son del mismo tipo. Están especialmente equipados para escuchar y registrar a bordo las múltiples señales radioeléctricas emitidas por los barcos, muy especialmente por sus equipos de radar. Y poco después, cuando sobrevuelan alguna estación rusa, transmiten a tierra toda la información almacenada. Con ellos

se puede descubrir la presencia de barcos, su posición y sus movimientos; pero no dan información directa sobre las características de los barcos detectados.

Desde principios de 1980, Rusia suele tener simultáneamente dos satélites de este tipo en el espacio, y los va reemplazando a medida que van dejando de funcionar. Las órbitas de ambos están coordinadas de forma que se complementen la información recogida por cada uno de ellos. La inclinación de la órbita de estos satélites  $-65^\circ$  hace que diariamente sobrevuelen todo el Océano Atlántico, incluyendo las Malvinas y aguas circundantes.

Pero los satélites fundamentales en la vigilancia de los océanos son los que van provistos de medios activos de detección, concretamente de un potente equipo de radar, que permite no sólo localizar a los barcos, sino también conocer exactamente el tipo de barco de que se trata. Son satélites muy complejos y de grandes dimensiones (unos 14 m. de longitud, 2 m. de diámetro y varias toneladas de peso). En fuentes norteamericanas se ha dicho que, en caso de conflicto bélico con Rusia, estos satélites serían uno de los primeros objetivos a destruir, por lo valioso de la información que proporcionan.

Durante el conflicto de las Malvinas, Rusia ha puesto en órbita dos satélites de este tipo, el *COSMOS 1.365*, lanzado el 14 de mayo, y el *COSMOS 1.372*, el 2 de junio. El primero en una órbita de 259/276 km,  $65^\circ$ , y el segundo en una órbita casi idéntica (258/277 km,  $65^\circ$ ) ambos lanzados desde Tyuratam con cohetes tipo F-1.

El radar de a bordo es del tipo de exploración lateral ("Side looking"). Para conseguir imágenes de buena resolución (se ha especulado con la cifra de 5 m) dispone de una antena plana de grandes dimensiones, que va plegada durante el lanzamiento y se despliega una vez que el satélite ha entrado en órbita. Y para producir a bordo la mucha

potencia eléctrica necesaria para alimentar al equipo de radar, ha recurrido Rusia al empleo de generadores nucleares a base de uranio 235 ligeramente enriquecido.

Parece ser que, con ligeras variantes, Rusia viene utilizando satélites de este tipo desde el año 1974. Su forma de actuar es siempre la misma. Se pone inicialmente en una órbita baja, de unos 260/280 km y  $65^\circ$  de inclinación, y se mantienen en ella durante su vida útil, que viene a oscilar entre 1 y 4 meses. Después, una parte del satélite, que incluye el reactor nuclear, se separa del resto y se coloca en una órbita mucho más alta, alrededor de los 1.000 km. de altura. El objeto de esta maniobra es evitar que el reactor nuclear caiga prematuramente a tierra y contamine con material radioactivo una parte de su superficie.

El procedimiento había funcionado siempre bien hasta que a finales de 1977 el *Cosmos 954* sufrió una avería en su sistema de orientación en el espacio y no fue posible llevar el reactor nuclear a una órbita más alta. Consecuencia de ello fue que poco a poco perdió altura el satélite, por el frenado natural de la atmósfera, y a principios de 1978 cayó a tierra de forma incontrolada, contaminando con el U-235 del reactor amplias zonas del Canadá.

A raíz de este accidente interrumpió Rusia los lanzamientos de satélites con reactor nuclear. Pero dos años después, el 29 de abril de 1980, coincidiendo con el despliegue de la flota norteamericana en aguas del Océano Índico y del Golfo Pérsico durante las graves crisis de Irán y Afganistán, volvió a reanudarlos con el *Cosmos 1.176* y otros posteriores. No obstante, el tener dos satélites de este tipo simultáneamente en órbita, como ha ocurrido con los *Cosmos 1.365* y *1.372* antes citados, es algo que sólo había sucedido otra vez desde hacía casi 4 años.

Para terminar con los satélites rusos de vigilancia de los océanos, debe resaltarse el hecho de que, al no disponer Rusia de una red de bases aéreas fuera de sus fronteras,



como la tiene los Estados Unidos, no ha podido utilizar aviones como medio efectivo de llevar a cabo esta vigilancia y ha tenido que volcarse bastante más que los Estados Unidos en el desarrollo de satélites que cumplieren esta misión. Y, según fuentes norteamericanas, ha conseguido en este campo estar sustancialmente más avanzada que los Estados Unidos.

Por último, hay que citar también los satélites de reconocimiento fotográfico, cuya información, caso de que haya llegado a manos argentinas, ha podido ser de gran valor para conocer los efectivos ingleses desembarcados en la Bahía de San Carlos y su despliegue posterior por la Isla Soledad. Los satélites de este tipo que ha puesto en órbita la Unión Soviética desde el 2 de abril, fecha de la llegada de las fuerzas argentinas, hasta el 14 de junio, fecha de su capitulación, que sobrevolaban diariamente el área de las Malvinas, han sido los siguientes:

*COSMOS 1.347*, el 2 de abril.  
*COSMOS 1.350* el 15 de abril.  
*COSMOS 1.352*, el 21 de abril.  
*COSMOS 1.368*, el 23 de mayo.  
*COSMOS 1.370*, el 28 de mayo.  
*COSMOS 1.373*, el 3 de junio.  
*COSMOS 1.377*, el 8 de junio.

A veces, estas maniobras tienen por objeto reducir la altura de vuelo del satélite para conseguir fotografías de gran resolución de algún objetivo concreto; pero vuelven a recuperar rápidamente su altura primitiva, para evitar una reentrada prematura por el frenado atmosférico, que aumenta rápidamente al reducirse la altura. Una de estas maniobras fue efectuada por el *COSMOS 1.347* antes citado, que el 2 de mayo redujo su perigeo a tan sólo 129 km; pero a la órbita siguiente ya lo había vuelto a subir a 173 km.

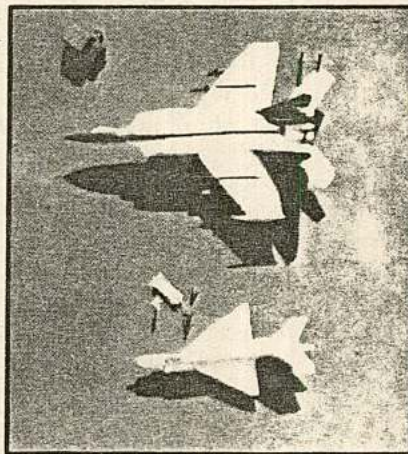
Los satélites de reconocimiento fotográfico se recuperan sobre Rusia. La mayor parte sólo permanecen en órbita de 12 a 14 días, como ha sido el caso del *Cosmos 1.352*. Algunos, como el *Cosmos 1.350*, extienden esta permanencia hasta 30 días. Y como caso realmente excepcional, el *Cosmos 1.347*, que se recuperó a los 50 días. Cuando la permanencia en órbita es superior a los 14 días suelen disponer de cápsulas recuperables, con las que van enviando a tierra el papel fotográfico impresionado.

Órbita inicial 181/364 km, 70,4°  
Órbita inicial 181/380 km, 67,2°  
Órbita inicial 216/383 km, 70,4°  
Órbita inicial 218/365 km, 70,4°  
Órbita inicial 203/290 km, 64,9°  
Órbita inicial 217/368 km, 70,4°  
Órbita inicial 179/362 km, 64,9°

13.000 kg. de peso, 15 m. de longitud y 3 m de diámetro. Se sitúa en una órbita polar muy baja, con un perigeo de 169 km. y un apogeo de 257 km. Era un satélite del tipo "*BIG BIRD*" y hacía el número 18 de esta familia.

Los satélites Big Bird tienen como elemento básico una gigantesca cámara fotográfica Perkin Elmer. En realidad, más que una cámara fotográfica deberíamos hablar de un verdadero telescopio, con una distancia focal de varios metros y un peso estimado de unas 8 toneladas. Desde una altura de 160 km puede conseguir fotografías en las que se aprecian objetos de hasta 15 cm de tamaño. El papel fotográfico, una vez impresionado, lo va enviando a tierra encerrado en cápsulas herméticas, que se desprenden del satélite y se recogen durante su descenso en paracaídas a través de la atmósfera, o tras su caída al agua. La recogida tiene lugar en el Océano Pacífico, cerca de las Islas Hawaii. Cada Big Bird puede enviar hasta 6 cápsulas. Una vez recuperado el papel, se envían urgentemente a Washington, al "National Photographic Interpretation Center", para su revelado, tratamiento con computador e interpretación de la información recogida.

Los Big Bird están equipados también con una cámara Eastman



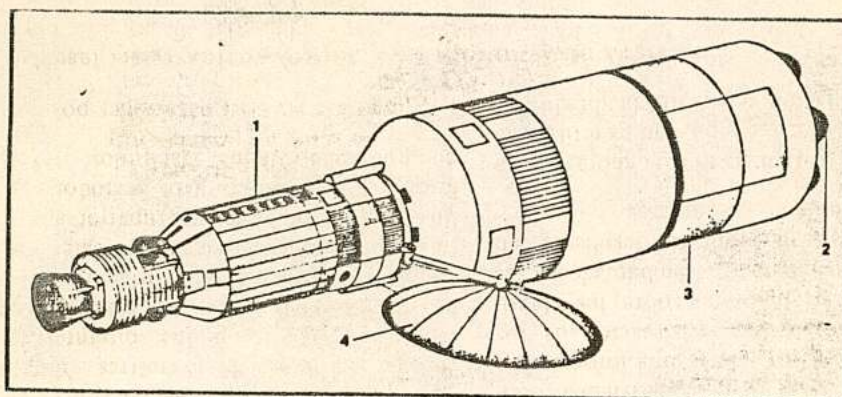
*Detalle ampliado de una fotografía de una base aérea soviética con resolución equivalente a la que parece puede obtenerse desde un Big Bird en órbita. Se aprecia con toda claridad un Mig-25, un Mig-21 y hasta las personas que los atienden.*

Este ritmo de lanzamiento es excepcionalmente alto, aun teniendo en cuenta que Rusia, en condiciones que pudiéramos llamar normales, viene a lanzar unos 30 satélites de reconocimiento fotográfico cada año. Son satélites que pesan unos 6.300 kg y que tienen unos 6,5 m de longitud y 2,4 de diámetro. Se lanzan indistintamente desde Plezetsk, al Norte de Rusia, o desde Tyuratam, al N.E. del Mar Aral, con cohetes tipo A-2. Se ponen siempre en órbitas bajas, con perigeos que oscilan entre 170 y 220 km. Una vez en el espacio, es frecuente que efectúen repetidas maniobras para ajustar la órbita y asegurar el paso repetido en días sucesivos sobre la vertical de los objetivos marcados.

## ACTIVIDADES NORTEAMERICANAS

El 11 de mayo, impulsado por un poderoso cohete Titan 3D (el más potente de los actualmente en servicio en las Fuerzas Aéreas), partía de la Base de Vandenberg (California) un enorme satélite de reconocimiento fotográfico, de unos





*Dibujo aproximado de un satélite BIG BIRD; pues la configuración exacta se mantiene en secreto. En el dibujo se destacan la gran antena (4) de 6 m de diámetro, las cápsulas recuperables (2), el cohete para maniobras en órbita (1) y el cuerpo central (3) que aloja las cámaras fotográficas.*

Kodak de media resolución. Sus fotos, que se transmiten por televisión a tierra y están disponibles con gran rapidez, sirven para alertar sobre la presencia de objetivos de interés, que se pueden fotografiar después con todo detalle con la cámara anterior. Para conseguir una buena calidad en la transmisión de estas imágenes por televisión, los Big Bird van provistos de una gran antena parabólica de 6 m de diámetro, que va plegada durante el lanzamiento y se despliega una vez que el satélite está en órbita.

El primer satélite de este tipo se lanzó en 1971. A partir del tercer lanzamiento, en 1972, alcanzó su estado operativo y desde entonces se viene empleando regularmente. Su permanencia en órbita ha ido aumentando y actualmente es alrededor de 6 meses. Desde 1976 viene lanzándose uno por año. El Big Bird es la pieza clave en el programa de reconocimiento fotográfico de los Estados Unidos y se puede asegurar, sin temor a equivocarse, que muchos metros del papel fotográfico que lleva a bordo el Big Bird lanzado el 11 de mayo se han utilizado fotografiando las Islas Malvinas.

Pero hay otro satélite norteamericano, el KH-11 n.º 4, puesto en órbita el 3 de septiembre de 1981, que sobrevolaba diariamente el teatro de operaciones y que con toda probabilidad ha estado también tomando fotografías.

Los satélites del tipo KH-11, desarrollados conjuntamente por la CIA y las Fuerzas Aéreas, tienen dimensiones y pesos parecidos a los Big Bird. Pero se sitúan en órbitas más altas (unos 250 km de perigeo y 520 de apogeo), permanecen bastante más tiempo en el espacio (más de 2 años) y, sobre todo, la información recogida se transmite a tierra en forma digital. Cada imagen se descompone en puntos, que se transmiten uno por uno, y después en tierra se reconstruye la fotografía punto por punto.

Las fotografías así obtenidas tienen de momento peor calidad que las conseguidas con los Big Bird. Pero hay planes en marcha para ir mejorando esta calidad y es posible que dentro de pocos años acaben sustituyendo completamente a los Big Bird. Hasta la fecha sólo ha habido 4 lanzamientos.

Pero los satélites de reconocimiento fotográfico no son los más adecuados para la vigilancia de los océanos. Los Estados Unidos tienen para este fin un programa combinado de satélites y aviones de gran radio de acción. Los primeros señalan la presencia y situación de los barcos y con los segundos se examina detalladamente el tipo, características y actividades de estos barcos.

Aunque nada se ha publicado sobre las actividades recientes de NOSS-3 ("Navy Ocean Surveillance Satellite n.º 3), que sobrevolaba diariamente todo el Atlántico Sur, se puede suponer que ha estado enviando información sobre las posiciones de todos los barcos que navegaban cerca de las Malvinas, cualquiera que fuese su nacionalidad.

Este satélite fue lanzado el 3 de marzo de 1980 y situado en una órbita relativamente alta (perigeo 1.035 km, apogeo 1.150 km, inclinación 63°), en donde puede permanecer centenares de años antes de caer a tierra. El NOSS-3 es en realidad una patrulla de 4 satélites volando en formación; pues el satélite principal, una vez en órbita, desprende 3 pequeños subsatélites, que se mantienen siempre a pocos kilómetros de distancia. Los 4 satélites reciben simultáneamente las señales radiadas por los barcos, los 3 subsatélites las retransmiten al satélite principal, se comparan las señales recibidas por cada uno y, por métodos interferométricos, se fija la posición de los barcos con gran precisión.

Se ha citado también la posibilidad de que los satélites NOSS vayan equipados con sensores de infrarrojos, para detectar a los submarinos en inmersión, por la estela que deja el agua caliente utilizada en la refrigeración de sus motores. ■





ESCUELA DE GUERRA NAVAL

TACTICA

HMS SHEFFIELD WAS A FLOATING FIRE TRAP

(New Scientist 22 JUL. 82)





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# H I S W E E

## HMS Sheffield was a floating fire trap

**B** RITISH SAILORS DIED needlessly in the Falklands campaign because their ships were floating fire-traps. A *New Scientist* investigation has discovered a catalogue of errors that left the crews of ships hit by missiles or bombs helpless to fight the fires that destroyed their vessels.

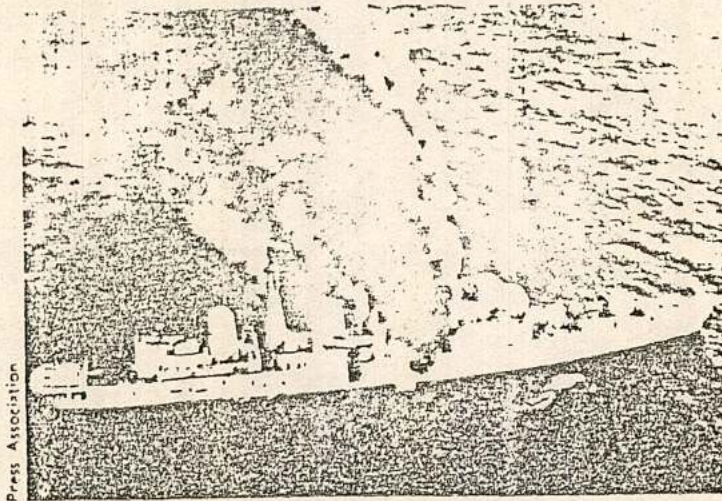
Our inquiries show that:

- Generators that should have provided power to fire-fighting pumps were out of action
- Fire-fighting pumps did not work because vital parts were missing
- In some cases, breathing equipment containing compressed air was almost empty
- Foam mattresses burnt easily, giving off clouds of toxic smoke
- Hydraulic fluid sprayed uncontrollably from burst pipes, feeding the fires
- Sailors were wearing polyester uniforms that melted onto their skins.

When HMS Sheffield was hit by an Exocet missile, the explosion cut many of the vessel's fire mains. Type 42 destroyers like Sheffield have two main and two back-up diesel generators. On Sheffield, one back-up generator was defective and the other could not be repaired because spare parts were not on board. The missile knocked out the aft main generator. The forward main generator failed minutes after the missile struck.

The power failure stopped ventilation in the ship which, within seconds, filled with dense, choking smoke. The smoke prevented crew members reaching the forward main generator, which could have provided power for one fire pump.

But even had the power supply to this pump been intact it would not have



Press Association

HMS Sheffield on fire: a floating firetrap

worked because it lacked vital parts and was out of action. The crew was therefore unable to fight the fires effectively.

Type 42 destroyers carry a small auxiliary gas turbine that powers an emergency fire-fighting pump. Despite persistent efforts by the crew, this would not start. A replacement had to be flown in from HMS Arrow.

Sheffield's second line of defence should have been small fire extinguishers. Many of these were foam extinguishers. They are filled with water. A small quantity of film-forming foam powder is added and a bottle of carbon dioxide attached. When somebody triggers the extinguisher, the carbon dioxide creates pressure to form foam.

Each ship carried only a limited number of carbon-dioxide bottles made of mild steel. They cannot be recharged on board ship because there is a risk of an explosion without special equipment. So they have to be returned to a commercial contractor in Britain for recharging. Once its limited supply of bottles was used up, Sheffield was effectively left without fire fighting equipment.

For several years, the Ministry of Defence has been looking at stainless steel extinguishers that can be recharged on the spot and pumped up to a high pressure with a foot pump. Since the Falklands campaign, these extinguishers are being issued to Royal Naval ships.

Another controversy surrounds life-saving emergency supplies of air. In the 1960s, the US Navy's aircraft carrier USS Forrestal was virtually destroyed by fire after a missile on a plane exploded on the ship's flight deck. Many of her crew died of carbon monoxide poisoning. As a result, the US Navy issued all sailors with a "survival support device" (SSD), a long, coiled tube containing 10 minutes' supply of air that allows a man to escape from a burning ship. The Royal Navy bought SSDs as well. We do not know how many SSDs were carried on the four warships damaged by fire in the Falklands. There

was certainly not one per man. Some small ships, such as minesweepers, carry only two for the whole crew.

Since the loss of the Sheffield, the Royal Navy has ordered 15 000 sets of a British equivalent to SSDs called FLSA (emergency life-support apparatus), which holds enough air for eight minutes. But this comes too late to save at least one man (and probably two) in Sheffield's computer room. When the Exocet hit, they shut themselves in the room and were ordered by telephone to stay put. They were later found dead, poisoned by carbon monoxide.

On at least one ship that caught fire after it was hit (not the Sheffield), breathing

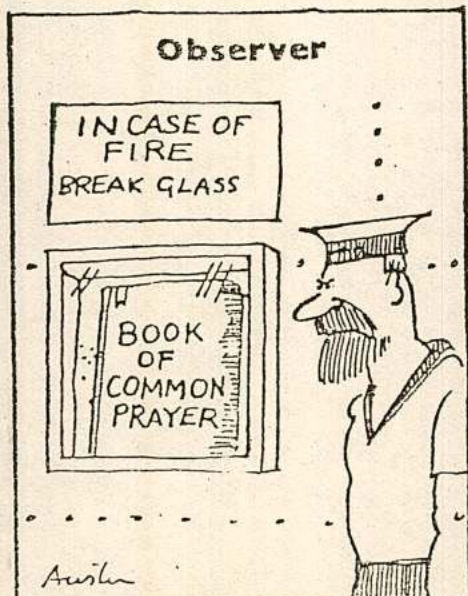
apparatus containing compressed air and worn by rescue squads was not charged properly. Instead of having 20 minutes or more to look for crew members in trouble, the rescue team ran out of air almost immediately. They did not even receive a warning; horns are supposed to sound when the supply is running low.

**O**n some ships that were hit, sailors fought fires wearing "number six" tropical dress uniform made from white cotton. They had to wear this uniform because their standard clothing, made of synthetic fibres, melted and stuck to their skins in fires. The Royal Navy used to issue overalls and "action working dress" (shirt and trousers) made only from natural materials such as cotton and wool. But in the 1970s, the IRA burned down a factory in Ulster that was the only source of supply. The Army and RAF issued clothing of different designs, but still made of natural fibres. The Royal Navy switched to polyester.

The Royal Navy is now belatedly equipping its warships and crews to survive a fire at sea. Foam mattresses, which give off clouds of toxic fumes when they burn, are making way for interior-sprung versions. Inflammable furnishings and other creature comforts are being stripped out of ships now on their way to the South Atlantic.

Procedures for supplying hydraulic pressure to winches and davits have been changed. Previously, individual parts of the hydraulic network could not be isolated. Any break in the lines meant hydraulic fluid spraying out at 27 580 kilonewtons/square meter (4000 pounds/sq.in) to feed the flames. Since the losses in the Falklands, a new procedure is in force: sailors who want to use hydraulic equipment must ask the engine room to provide power.

One humble piece of kit has proved its worth. Ships' blankets turn out to be highly fire-retardant and have done yeoman service as makeshift smoke curtains.



Anshu









ESCUELA DE GUERRA NAVAL

TACTICA

THE SAN CARLOS LANDING

(Marine Corp Gazette OCT. 82)







Complete surprise is still quite possible in this age of sophisticated surveillance aids.

## Falkland Islands

# The San Carlos Landing

by Edgar O'Ballance

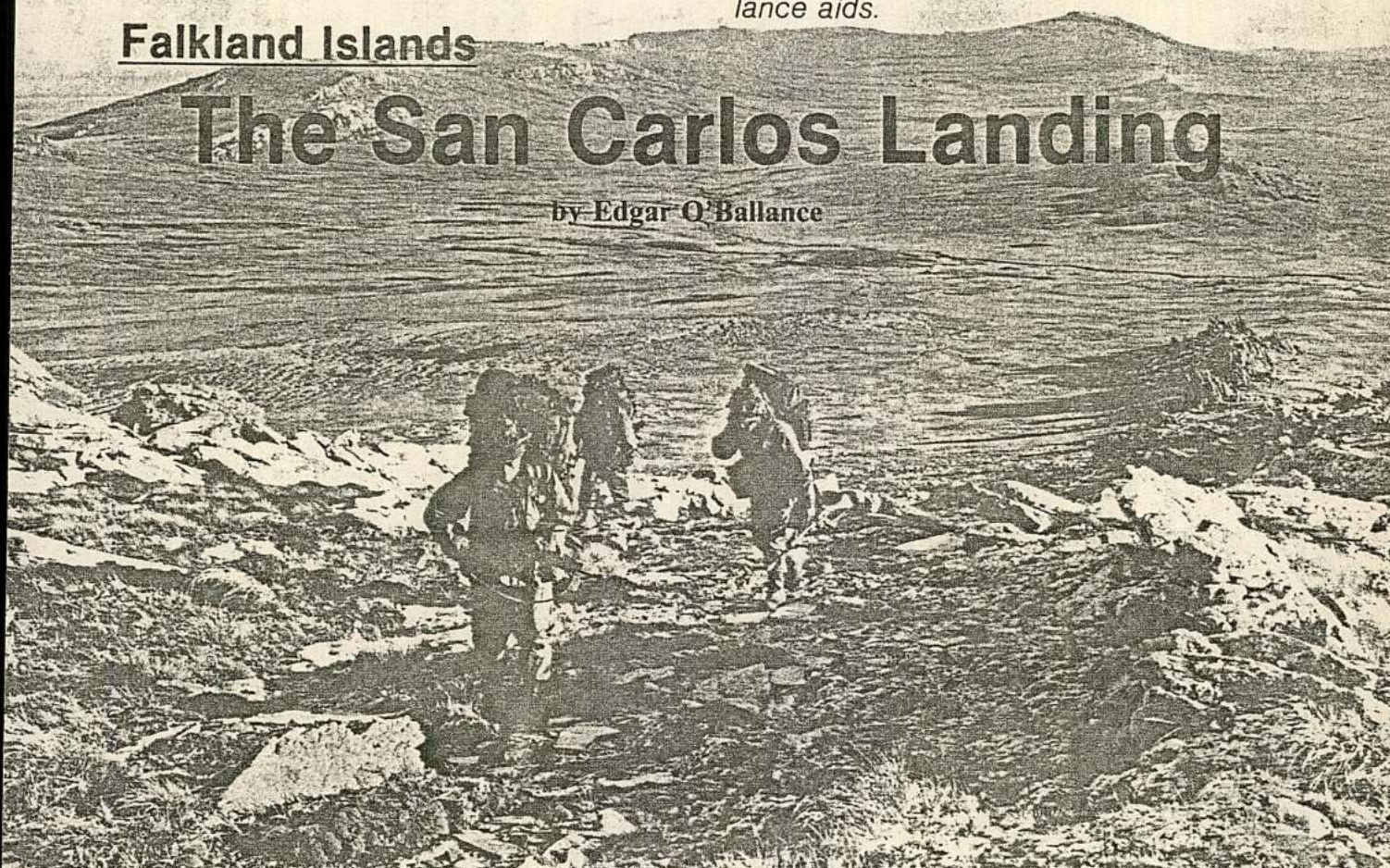


Photo by Peter Holdgate  
Courtesy of Royal Marines Museum, Eastney

**B**ack in 1966, the British Defense Minister declared that British armed forces would never again have to face another opposed landing, and never have to operate on their own. On 21 May 1982, they had to do just that when the 3 Commando Brigade, Royal Marines made an amphibious assault in the San Carlos area to regain possession of the Falkland Islands, which had been forcibly occupied by Argentine troops on 2 April. The British Government had been caught completely by surprise, but the next day the first submarine of what became a 101-ship task force, commanded by RAdm John Woodward, sailed southwards from the United Kingdom toward the South Atlantic.

The flagship of the task force was the carrier HMS *Hermes*. Aboard it and several other ships were the 40, 42, and 45 Royal Marine Commandos, each of about 800 men, and the 2d and 3d Battalions of the Parachute Regiment. Also embarked as part of the same 3 Commando Brigade, commanded by Brigadier Julian Thompson, were 59th Independent Squadron, Royal Engineers; 29th Commando Regiment, Royal Artillery, with its 105mm howitzers and Rapier missiles; and two troops

of The Blues and Royals (Cavalry Regiment) with 16 light-armored Scorpion and Scimitar vehicles. The Marines and paratroops had mortars and Blowpipe anti-aircraft missiles in addition to personal weapons.

The treeless Falkland Islands consist of an area of about 4,250 square miles. There are two main islands, East and West Falkland, which are separated by the narrow Falkland Sound, and some 200 small islets. The terrain consists of low hills, huge rocky outcrops, and bogland. About 1,800 people live on these islands, about half in the Capital, Port Stanley, in the eastern part of East Falkland; the remainder are scattered in a dozen or so widely spaced hamlets, most of which have a grass landing-strip. Sheep-raising is the only occupation. There were only eight miles of surfaced, all-weather roadways around Port Stanley, and the tracks connecting some of the hamlets can only be used by Landrovers and tractors with difficulty, especially in winter. Communication with the main hamlets is mostly by coastal craft or light aircraft. The small International Airport, 6 miles south of the Capital, has a 4,000-foot runway.

The Argentine occupation force at first was



fairly small, perhaps less than 3,000 men, mainly Marines, with 2 battalions of the 25th Infantry Regiment, 3 batteries of 155mm and other field and antiaircraft guns. Initially, neither side thought the other would fight, but when it became apparent the British meant business, the Argentines began to hastily increase the size of their garrison, which was reinforced by the 3d and 9th Infantry Regiments (each of 2 battalions); more artillery, radar, supporting and logistic units and 12 Panhard armored cars. Maximum strength eventually reached over 14,000 men. The British invasion force was just over 9,000 strong. The headquarters and main body of the Argentine garrison was at, and around, Port Stanley. One battalion was at Goose Green on East Falkland, later reinforced by a second; another battalion at Port Howard and two at Fox Bay, both on West Falkland; and other small detachments were scattered around the coasts, and on certain islets, such as Pebble Island, for operating radar and observation.

#### Arrival of the Task Force

The Falkland Islands are some 8,000 miles from the UK. After calling at Ascension Island, which became the British mid-way base, the leading elements of the naval task force, led by two carriers, HMS *Hermes* and HMS *Invincible*, arrived near the Falkland Islands in mid-April, while the amphibious task group gathered at Ascension Island where troops trained ashore and continue planning for forthcoming operations. On 25 April, British Marines recaptured South Georgia, which had also been occupied by the Argentines, and which was some 800 miles from the Falkland Islands.

The opening maritime shots at the Falkland proper were fired on 2 May, when the Argentine cruiser *General Belgrano* (with a crew of 1,042) was hit and sunk, with the loss of 368 lives, by a Tigerfish torpedo from a British nuclear-powered submarine, HMS *Conqueror*. This happened about 30 miles outside the declared British Total Exclusion Zone (TEZ), of 200 miles around the Falkland Islands on direct orders from the United Kingdom. Two escorting Argentine destroyers fled the scene, but returned later to pick up survivors. Orders to the submarine commander were not to sink them. After this, the Argentine Navy did not venture out again from the shelter of its 12-mile territorial waters limit.

On 4 May, the Argentines hit back, and sank the British destroyer, HMS *Sheffield*, with an Exocet (AM-39) air-to-sea missile, fired from a Super Extendar aircraft. The British task



Photo by Peter Holdgate

Courtesy of Royal Marines Museum, Eastney

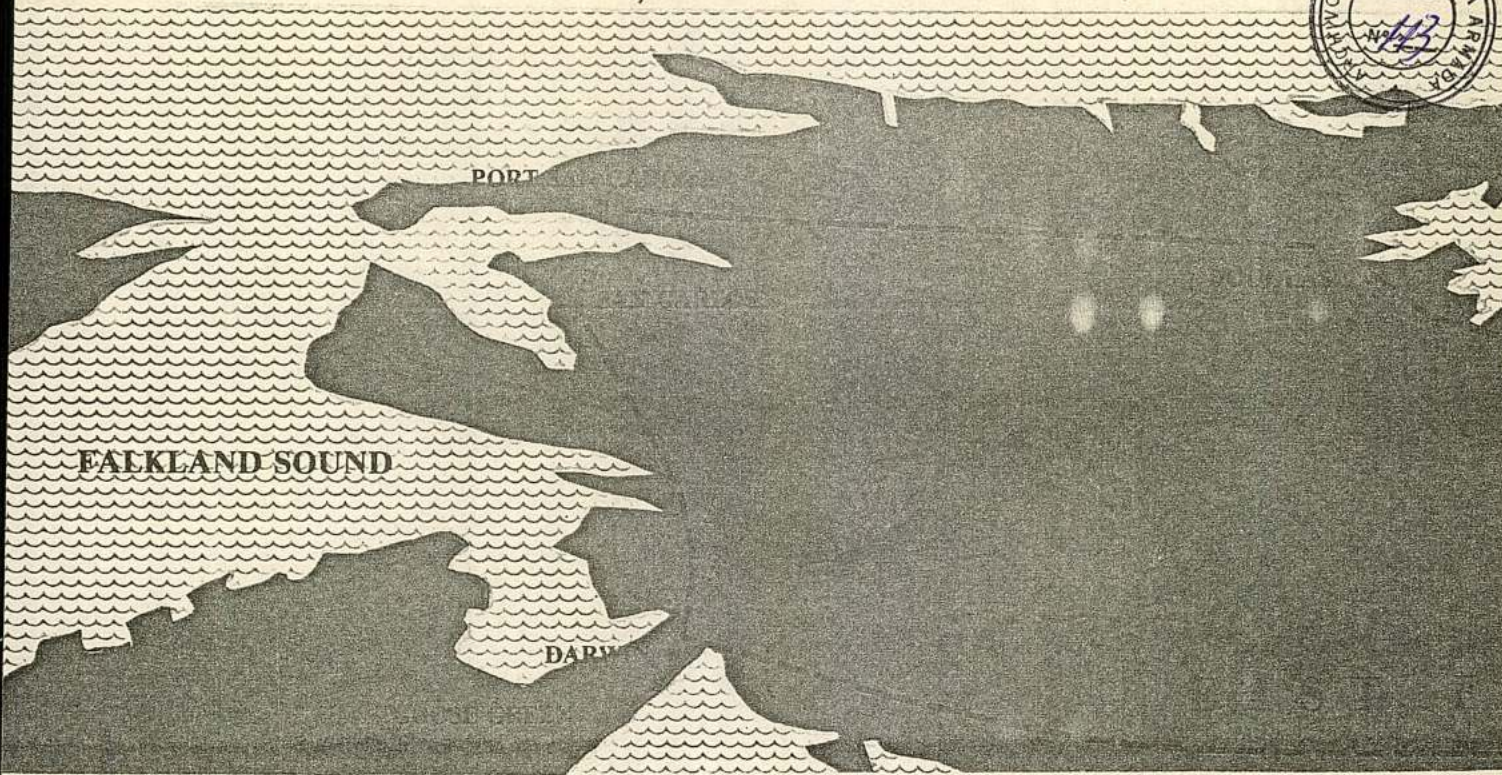
*Scimitar armored vehicle digs in shortly after coming ashore.*

force was deficient in early airborne warning radar and conventional fighter cover. The *Sheffield*, which lost 20 men, for example, had only the Sea Dart missile, which has a 30-mile range (10 less than Exocet). The British had a good counter missile, the Sea Wolf, with almost twice the range of the Exocet, but it was only fitted to two ships, the destroyers HMS *Broadsword* and HMS *Brilliant*. The *Belgrano* did not have the naval Exocet (MM-38), but its two destroyer escorts did. Over eight ships in the task force were fitted with the naval Exocet (MM-38).

Such technical considerations influenced British strategy. Instead of part of the task force basing itself on one carrier, and stationing itself between the Falkland Islands and the Argentine mainland, some 400 miles apart, to interdict Argentine ships and aircraft, major ships had to remain well to the east of the TEZ to be out of range of land-based aircraft. The loss of a carrier, or troop-carrying ship, might have caused the whole operation to be aborted. Thus the Argentine airborne Exocet missile, although it was thought they had less than half-a-dozen of the AM-39 type, clearly cast a shadow over the task force for the duration of the campaign.

On 15 May, a party of 44 British Special Air Service (SAS) personnel landed on Pebble Island, at the northern end of the Falkland Sound, attacked the small garrison, destroying 11 aircraft on the landing strip, a radar post, and a small ammunition dump before withdrawing again. During this raid the Argentine positions were bombarded by naval 4.5-inch guns. The SAS noticed that when they first attacked the positions, the soldiers, mainly conscripts, ran away, but were brought back again by their officers, only to run away again. Argentine officers became British targets in battle. Pucarás and other short-range aircraft operated from the grass landing strips. The Pucara is an Argentine plane specially developed for antiguerrilla operations.





### San Carlos

The place chosen for the assault landing was the San Carlos area on East Falkland, at the northern end of the Falkland Sound, where there was a forked inlet surrounded by low hills, which would afford some protection against attacking Argentine aircraft and would provide good positions for the Rapiers, a low-level (up to 10,000 feet) ground-to-air missile. Argentine pilots required a straight run of 2,000 yards to lock their Exocet missiles on to target. The narrow waters of the San Carlos Inlet, and indeed the narrow Falkland Sound, were ideal hiding places for ships particularly when there was mist and low cloud.

Surprise was achieved by the British, who had persuaded their media to give the general impression that the three courses being considered by the task force commander were to launch a massive, head-on, Normandy D-day-type assault on Port Stanley; to be content with nibbling tactics like the raid on Pebble Island to destroy the defenders' morale; or just to tighten the naval blockade to starve the Argen-

tines into surrender. On 21 May, in London, a government spokesman said "Our lads will sleep in their beds tonight."

The forked San Carlos Inlet penetrated the land mass eastwards from the Falkland Sound. The northern fork, known as San Carlos Bay, led to Port San Carlos, a hamlet of some 30 people. Along the northern side of San Carlos Bay, from Fanning Harbour eastwards for some five miles to Port San Carlos itself, were good landing beach sites, and above Fanning Harbour was the low hill ridge of Fanning Head, which was both a good observation point and site for Rapiers. The southern fork, a narrow fjord-like one, was known as San Carlos Water, with the hamlet of San Carlos, also of about 30 people, at its head. The southern flank of the San Carlos Inlet was covered by a low ridge of hills, known as the Sussex Mountains. An uncertain motorable track ran from Port San Carlos eastwards to Teal, Douglas, and other eastern settlements, and another from San Carlos south towards Darwin, Goose Green, and Port Stanley.

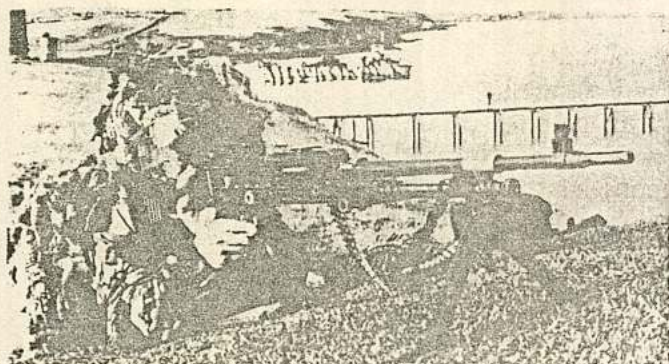


Photo by Peter Holdgate

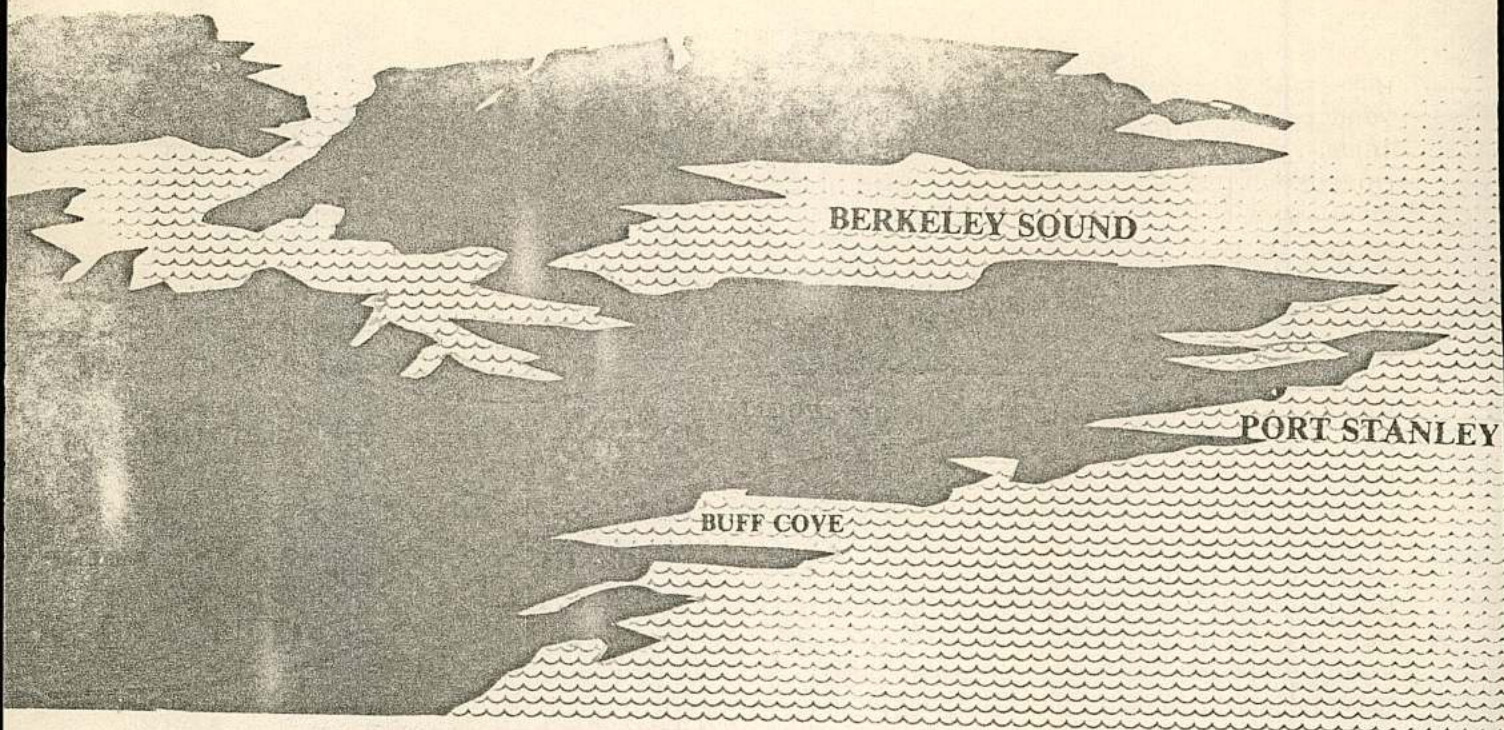
Courtesy of Royal Marines Museum, Eastney

*Commando mans machinegun during landing operations*

### A Dawn Attack

D-day was 21 May. The assault troops were the whole of the 3 Commando Brigade, both Marines and paratroops, who landed from the LPDs, LSLs, and the requisitioned passenger liner *Canberra*, which brought them into Falkland Sound to the mouth of the San Carlos Inlet by about 0300. Disembarking into small landing craft, assaulting troops moved quietly to four specified "beaches" on the north side of San Carlos Bay, and to three on San Carlos Water. All assault troops were ashore within four hours. As the days were short with only





about eight or nine hours of good daylight, the bulk of these forces were ashore before daybreak.

Tactical surprise was complete. There was no moon, but bright starlight, which silhouetted the surrounding hills. Conditions for an amphibious landing were ideal. As the leading waves of troops waded, or jumped, ashore, they felt the reality of the Antarctic cold for the first time, after being cramped on ships for several weeks. Save for one post of about 40 men on Fanning Head, there were no defenders. The Fanning Hill position had been attacked by the Special Boat Section (SBS) prior to the main landings as part of advance force operations. Fourteen prisoners were taken during this action. For the main landings, there was no naval bombardment; silence was maintained as long as possible. Later in the day, however, the British lost two Gazelle helicopters to ground fire from the remnants of the Fanning Head post. In one case patrols of Marines and paratroops, probing forward from their respective beaches, mistook each other for the enemy, and mortar bombs were fired, injuring one man.

The previous days had been cloudy and overcast, with mist obscuring visibility from the air, but the morning of D-day dawned bright and clear, giving excellent visibility to reveal the attacking armada, with several large ships, including the *Canberra*, crowded into the narrow Falkland Sound and other small ships and smaller craft packed into the forked San Carlos Inlet. Tactical success was achieved, and by 1030, some 2,500 men were ashore. It was not until about 1000 that an Argentine Pucara aircraft appeared to see what was happening. It

fired its rockets and disappeared again.

#### Argentine Air Attacks

Early on D-day Port Stanley, Goose Green, and other targets had been attacked by British Sea Harriers, of which 20 were based on the two carriers. When news of the San Carlos landing reached the Argentine headquarters in Port Stanley, the British effort was thought to be a deliberate diversion. Aircraft apparently were dispatched from the mainland—the journey took up to two hours—but were not directed to the San Carlos area. The British had expected, and indeed hoped, to tempt the bulk of the Argentine combat aircraft that were capable of operating to the Falkland Islands into a massive air assault. When the Argentine air attacks did begin in San Carlos about 1030 on D + 1, they came in a continuous succession of waves.

The Argentine aircraft flew all day over the crowded, narrow waters, attacking from the east (not the expected west) having extra fuel tanks fitted to enable them to make the necessary detour, concentrating upon the combat ships, rather than the troops-carrying and smaller transports. Although some of the Rapiers were ashore they were not completely set up by the time these attacks began. The ships replied with missiles and anti-aircraft fire. Most combat ships had the Sea Dart, which forced the pilots to fly low to avoid the missiles. At the end of D + 1, when air attacks ceased at dusk, the British claimed they had destroyed 9 Mirages, 5 Skyhawks and 3 Pucarás, for the loss of one Sea Harrier, brought down by an enemy Blowpipe missile near Goose Green early that morning. The



pilot ejected and was the only British prisoner to be taken in the whole campaign. Five British ships were hit, and the frigate HMS *Ardent* sank the next day. The Argentine air force did not operate at night in this campaign. Then followed a 36-hour respite for the task force.

During this lull the British got the remainder of their assault troops, a few 105mm howitzers, mortars, and more Rapiers ashore. On the ground the invasion force spread out to occupy the low hills surrounding the San Carlos Inlet, and to prepare for the expected counterattack, forming a bridgehead of some 10 miles square. No other contact had been made with the Argentines, whose nearest outpost was south at Shanty Ridge, about 15 miles away along the track to Goose Green. By the end of D+1, the task force had over 4,000 men ashore, with sufficient food and ammunition for about 4 days,

but little heavy equipment.

### More Air Attacks

Argentine aircraft resumed the attack about 1400 on D+2 (23 May), another bright and clear day. Only two Skyhawks had appeared the previous day to drop their bombs harmlessly into the Sound. Small ships moved closer inshore to avoid the anticipated Exocet missiles, but became vulnerable to the Pucaras. All day successive waves of aircraft aimed primarily at the "gun line" of the combat ships in the Sound, that included three destroyers and five frigates. Skyhawks each carried two 1,000-pound bombs. One flew low enough to clip the radar antennae of the frigate HMS *Antelope* and to hit it with both bombs. One went through the bow and out, and the other fell through to the engine room to explode later

## Harriers at the Falklands

The British task force that departed for the South Atlantic on 5 April included 20 Sea Harriers on board its two carriers—8 on *Invincible* and 12 on *Hermes*. These combat aircraft—the only ones with the fleet—were subsequently reinforced in the second and third weeks of May by a total of 8 more Sea Harriers and 14 Royal Air Force Harriers referred to as GR-3s. Thus a total of 42 Harrier-type V/STOL aircraft eventually saw duty within the 200-mile Total Exclusion Zone that Britain proclaimed around the Falkland Islands.

Some of the reinforcement aircraft made the entire trip to the Falklands area by air, stopping only at Ascension Island and relying on inflight refueling; others flew aboard commercial container ships—specifically *Atlantic Conveyor* and *Buzant*—and used them as temporary "minicarriers" for the final leg of the trip. The successful use of these ships as air platforms and the flexibility, dispersion, and security they offered the fleet have led to increased interest, at least on the part of some British military observers, in the Arapaho program, which is in the process of developing conversion kits to give merchant ships a limited air-platform capability. (See May82 GAZETTE.)

The two types of Harriers committed to the operation were optimized

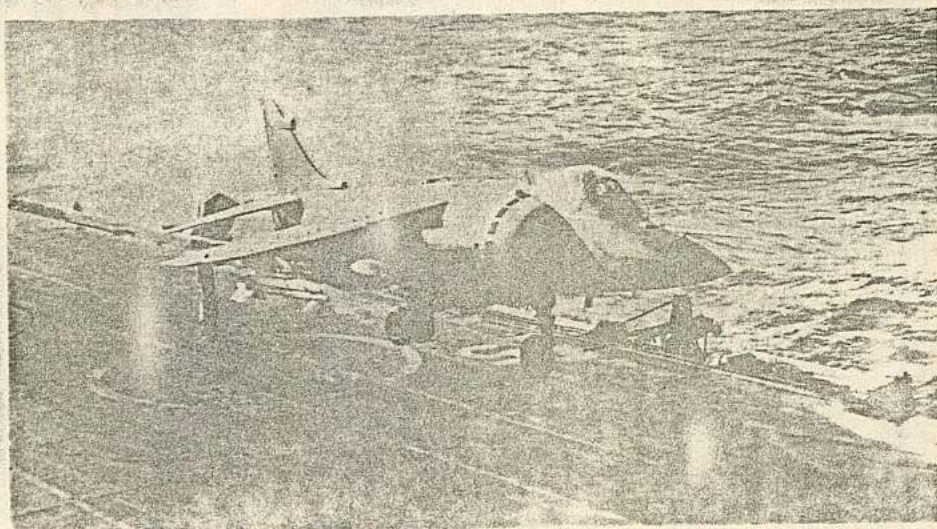
for different purposes. The Royal Navy's Sea Harriers were configured as fighters with secondary missions of reconnaissance and attack on shipping. They were equipped with Blue Fox radars, which although lacking the capability of newer pulse doppler radars, worked very well. The Air Force Harriers (GR-3s) on the other hand were optimized for ground attack and reconnaissance missions. They were equipped with the Inertial Navigation Attack System (INAS), which includes a laser spot tracker and designator. The GR-3s were not used in the air defense role.

Typical combat loads for the two

types of Harriers were as follows: Sea Harrier—2 AIM 9-L Sidewinders, 2 Aden 30mm cannons, 6,500 pounds of fuel; GR-3—3 1,000-pound bombs or 3 BL-755 cluster bombs, 5,000 pounds of fuel.

Over 2,000 sorties were flown by Harriers during the course of the campaign. Most sorties lasted 1½ hours, but were sometimes shortened to 1¼ hours if bad recovery conditions existed. Aircraft availability was exceptional—over 80%. Aircraft averaged 55 hours per month and flew up to 6 sorties daily. Pilots usually flew 3 or 4 sorties daily, but often spent up to 10 hours a day in the cockpit due to the readiness conditions imposed.

A total of 9 Harriers (6 Sea Har-



Over 2,000 sorties were flown by Harriers.



when being defuzed. The *Antelope* sank three days later (26 May).

San Carlos Water became known as "Bomb Alley." Although Argentine pilots still concentrated on combat ships, other ships too were hit by bombs and rockets, and there were many near misses. The *Canberra*, for example, lying in the Sound, had 12 bombs dropped within a couple of hundred yards of it within 4 days. The troops ashore were often in danger of "wild missiles" that either missed their targets, went off course, or overshot their marks, to crash crazily into the hillsides. At the end of D+2, the British claimed to have brought down six more Argentine planes, and damaged two others. That evening, on direct orders from the United Kingdom, all combat and transport ships were directed to leave the San Carlos area and remain clear during daylight

hours, only returning in darkness. This considerably slowed down the buildup of the bridgehead.

Many Argentine bombs—in fact, a high proportion of them—did not explode, and at first were thought to be "duds." The reason for their not exploding reportedly was due to malfunctioning or misuse of bomb fuzes. At least two British ships were hit by bombs that did not explode, but simply penetrated one side and went through and out the other. The handicap of the eight-second fuse was kept secret by the British, and the Argentines did not really realize what was wrong, or correct it, until the very last day of the fighting. The following day, D+3 (24 May), the Argentines admitted losing 15 aircraft, but the British claimed to have brought down 22, most being intercepted by Sea Harriers. That day the first Argentine

riers and 3 GR-3s) were lost during the operation. Of these losses, four were contributed to accidents and five to direct enemy action. It is believed that ground fire was responsible for four of the combat losses and a surface-to-air missile the fifth.

Losses inflicted on the Argentines were heavy. Confirmed kills by the Sea Harriers total 31 aircraft, the vast majority of which were Mirages or A-4s. Of 27 Sidewinders (AIM-9Ls) fired, 24 successfully shot down aircraft. The remaining air-to-air kills were achieved by 30mm Aden cannons. Other air defense systems, such as Rapier, Sea Dart, Sea Wolf, Sea Cat and handheld weapons/small arms, accounted for 44 Argentine planes. It is estimated that at least 30

more Argentine aircraft were destroyed on the ground. To this total of 105 almost certain kills must be added an undetermined number of other Argentine aircraft that failed to make it back to base due to battle damage or overexpenditure of fuel as a result of operating at extreme range limits.

Harriers demonstrated the ability to operate in extremely adverse weather. High seas, pitching decks, and foul conditions that would have prevented conventional carrier operations had little effect on Harriers. Carriers benefited from not having to turn into the wind to launch or recover aircraft and fleet operations were simplified.

The ski jumps fitted on both British carriers (7° on *Invincible*, 7.5°

on *Hermes*) worked extremely well, increasing aircraft lift capability and improving the efficiency of flightdeck operations. Pilots are outspoken in their praise of the jump. The concepts of loitering ashore and of staging/re-fueling/rearming aircraft on small platforms on other ships—notably the assault ships *Fearless* and *Intrepid*—also proved of great value.

The absence of an airborne early warning capability hampered British operations and put the fleet at some disadvantage. This weakness was partially offset by the use of ships, such as the frigate *Broadsword*, on picket duty. These ships are reputed to have done an excellent job of directing Harriers even when under attack.

The excellent maintenance record and high availability of Harrier aircraft was a tribute not only to the aircraft's dependability and the high quality of maintenance personnel, but also to the effort put forth by other elements in the logistic chain. Industry supplied some 4,000 spares over a 6-week period, nearly 3 times its normal peacetime production. These parts were flown to Ascension Island and transferred to C-130s, which dropped them by parachute either at sea or on land to reach the using squadrons.

J.E. Greenwood

\* The data in this summary was compiled from a variety of sources and is subject to revision when additional information is finally released.



*Ski jumps were fitted on both carriers.*



plane was brought down by a British-fired Blowpipe.

Contrary to general expectations the slower Sea Harriers were beating the faster Mirages in dogfights. This was partly because the Mirages remained subsonic to conserve fuel (to be supersonic would double fuel consumption) and partly because the Sea Harriers were highly maneuverable and equipped with the very effective Sidewinder missiles.

Meanwhile on the ground there was still no counterattack, nor contact with the defenders at all. Trafficability was poor by any standards, but the Scorpions and Scimitars pushed forward on reconnaissance missions along the tracks eastwards and southwards. Their performance was considered one of the real success stories of the campaign.

Argentine National Day was 25 May (D + 4). The British expected heavy air attacks, and they were not disappointed, as over 40 waves were launched against the San Carlos area. A Sea Harrier made its first "double-kill." In the morning Skyhawks attacked HMS *Coventry* inside the Sound. The destroyer brought down one plane with its Sea Dart missiles, but was in turn hit by four bombs. It sank with the loss of 24 men. Outside the Sound the Super Entendards made their first appearance since 4 May, and located the *Atlantic Conveyor*, a huge container cargo ship with a flat deck, which they sunk with an Exocet missile, nine men being lost. Three Chinook helicopters, 900 tents, and tons of other supplies went down with that ship. Controversy remains as to whether the Argentines mistook the *Atlantic Conveyor* for the carrier *Hermes* which was nearby.

A few Argentine air attacks were made on the task force the following day, 26 May, but they were tailing off as the momentum had gone from their offensive. By this time Rapiers



Photo by Peter Holdgate

Courtesy of Royal Marines Museum, Eastney

#### *Surrendered weapons and gear litter area near Stanley airport.*

and Blowpipes, as well as naval missiles were taking their toll of aircraft, and the Argentines were feeling the loss of so many of their best pilots.

The buildup of the bridgehead was complete; the whole brigade was ashore, together with some 32,000 tons of ammunition and supplies. Although there was still no land contact with the defenders, nor any sign of the anticipated counterattack, the land force commander, Brigadier Julian Thompson, a Marine officer, concentrated upon aggressive patrolling and keeping the perimeter well defended. He was waiting for the arrival of a second brigade, due in a few days time of the requisitioned luxury liner *Queen Elizabeth II*, a Rapier squadron of the Royal Air Force Regiment from Germany, and another 20 Harriers, before advancing towards Port Stanley. This extra formation was the 5th Infantry Brigade, consisting basically of a battalion each of the Scots, Welsh, and Gurkhas.

#### **The Advance to Port Stanley**

The waiting ended, however, when Brigadier Thompson's orders were suddenly changed. The British Government anticipated there might be a United Nations' Resolution passed imposing a cease-fire, which would leave the British ground forces in a distinctly disadvantageous position many miles from Port Stanley. Accordingly, it ordered the force to move at once. A two-pronged advance began on 26 May (D + 5). The southern prong, led by paratroops with 42 Commando in support, carrying all their equipment, crossed over the Sussex mountains to reach Camilla Creek on a narrow isthmus on 27 May. The loss of the Chinooks was felt. The next day, the paratroops moved to attack and take Darwin and Goose Green, where they captured some 1,400 Argentine prisoners. Another 250 Argentines had been killed, and about the same number wounded. A company of Marines with helicopter lifted to support the paratroops while this



Photo by Peter Holdgate

Courtesy of Royal Marines Museum, Eastney

#### *Argentina prisoners captured at Mt. Harriet by 42 Commando.*



battle was in progress. On 31-31 May, 42 Commando took Mount Kent. The northern prong of the advance, led by 45 Commando with the objective of Douglas Settlement and the 3d Parachute Battalion with the objective of Teal Inlet, seized its objectives on 28 May.

When the 5th Infantry Brigade, commanded by Brigadier Tony Wilson, and the new landing force commander, MajGen Jeremy Moore, arrived, it was decided that elements of the 5th Brigade would make a landing about 15 miles short of Port Stanley at Bluff Cover and Fitzroy on the coast. Some of these elements were attacked by Argentine aircraft while still on the assault ship. They lost 50 killed and 57 wounded. To maintain the momentum of the advance, two companies of Marines from 40 Commando were brought in by landing craft, to remain with that formation, and to trek with it through the battles for the low hills overlooking the capital. The 45 Commando and other Marine elements accompanied the other, eastern prong of the pincer movement, having to "Yomp", that is march with their full kit, which weighed some 120 pounds, and weapons, across bogland and rocky outcrop, some 70 miles to reach and fight for the heights overlooking Port Stanley.

On 11 June 42 Commando, 45 Commando, and 3d Parachute Battalion launched a brigade night attack which secured Mount Harriet, the Two Sisters, and Mount Longdon. On 13 June the Scots Guards took Mount Tumbledown; the 2d Parachute Battalion, Wireless Ridge; and the Gurkhas, Mount William. On the afternoon of 14 June (D+24) the Argentine defenders cracked and laid down their arms. The British the following day rounded up over 9,000 prisoners. The Royal Marines lost 26 men killed in all these actions.

### The Balance Sheet

The claims and counterclaims are still subject to an impartial accountant's audit, but some general figures are of interest. The British admit to 256 killed and 673 wounded, and 1 POW, a Harrier pilot; also to losing 5 ships sunk and 12 damaged; and to losing 1 Sea Harrier, 1 Sea King helicopter, and 2 Gazelle helicopters to the enemy (although they admit to losing other aircraft in accidents or for reasons other than combat). They claim to have destroyed more than 100 Argentine aircraft, to have captured 11,090 prisoners, killed probably over 1,000, and wounded another 1,000.

Argentine admissions are sparse and partial. One official statement was that only 82 (of

some 223) combat aircraft had been prepared for operations, of which 34 had been shot down. Some 11 percent of these had been lost in attacking the San Carlos area; 55 pilots had also been lost. BGen Dozo, the Air Force commander, admitted that "261 aircraft sorties had been forced to turn back because of the effectiveness of the air and sea blockade." The Argentines admit they had 1,798 dead and wounded, and that "3,300 men were unaccounted for," but no mention was made of those taken prisoner. The Argentine armed forces on the Falkland Islands were remarkably well equipped, and huge quantities of weapons and equipment were collected up by the British and are still being cataloged.

### Comments

The Falkland Islands campaign came right out of the blue to confound world strategists, who were immersed in the East-West conflict, with China as a peripheral issue, but blind to the rest of the world. It smacked of a British 19th century war, and also of British 19th century attitudes, surprising for a country that had shed an empire that once covered one-quarter of the earth's surface. The key to success was political will and determination.

On the military side it was a textbook operation, with a little luck thrown in, conducted with an 8,000-mile logistic line across the ocean. The amphibious landing at San Carlos was also of textbook quality and can hardly be faulted. It overturned the entrenched assumption that complete surprise can no longer be obtained in this age of sophisticated surveillance aids. In battle much always depends upon the quality of the troops involved, their training, morale, and motivation. The British contingent was an all-volunteer one, well-trained, and keen to prove its skills, which was something of a vindication for the school that advocates small regular armed forces instead of large conscript ones. The Argentine garrison was a mixture. About half were conscripts, ill-trained, ill-cared for, and poorly motivated; the other half were either regulars or technicians and NCOs on short-term engagements. The Argentine officer-to-enlisted man relationship left much to be desired. Lastly, mobility was the key to the land battle, as the British troops were mobile on their feet, across terrain the Argentines thought was impassable, carrying over 120 pounds of kit on their backs. On the other side, the Argentines seemed to be completely immobile except in withdrawal from outposts.

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THE FALKLANDS: JOINT WARFARE JUSTIFIED

(Rusi SEP. 82)







# The Falklands: Joint Warfare Justified

By Rear Admiral E. F. GUERITZ, CB, OBE, DSC

*Consultant to the RUSI*

On 5 May 1942 British Forces landed in Courrier Bay on the North-West coast of Madagascar. The expedition had sailed from Scotland six weeks before and, after a brief stop at Durban, surprised the Vichy French garrison by entering the Bay at night, a feat considered impossible by the French Command. The boldness of the plan was epitomised by the way in which the Union Castle liner *Winchester Castle* negotiated the hazardous entry channels, avoided a minefield and landed No 5 Commando under the guns of the fortress.

Almost exactly 40 years later on 21 May 1982, British forces landed by night in San Carlos Bay, on East Falkland Island. The expedition had sailed from the United Kingdom on 5 April and, after some reshuffling of loads off Ascension Island, surprised the Argentine garrison of the Falklands by the boldness of the night approach. This included bringing the liner *Canberra* into the restricted waters of Falklands Sound and San Carlos water to disembark 3,000 men. The landing forces, both in Madagascar and the Falklands, were commanded by Major-Generals of the Marines (Robert Sturges in 1942 and Jeremy Moore in 1982).

These small similarities apart, the liberation of the Falkland Islands must be considered as a quite exceptional feat of arms and a stirring example of cooperative endeavour. It is too early to do justice to the many remarkable achievements or recognise the moral courage by which the enterprise was inspired and carried through. Full assessments must await the despatches of the Commanders of the Force and the

comments of their superiors. Detailed reports and analysis will be needed to assess weapon effectiveness, performance of equipment and machinery, logistic strengths and weaknesses and all those other elements, human and material, which are the constituents of fighting efficiency. The Falkland Islands and their dependencies have been liberated but no general cease-fire in the South Atlantic has been declared. The future security of the Islands is a matter of serious concern for the British Prime Minister and her advisers. Public comment on the dramatic events of the past few months needs to be restrained by the continuing possibility of giving away useful information. Subject to these limitations the purpose of this article is to review some aspects of the operation with an eye to future study and discussion.

Nothing that follows should be taken as subtracting one jot from the unstinted admiration which the writer has conceived for the Falklands Expedition and all who have contributed to it. The assembly and despatch of the essential nucleus of aircraft carriers and landing ships with their respective loads of men, aircraft, helicopters and other equipment was a great achievement. The mustering of a fleet of transports for men and equipment, of tankers and supply ships to sustain the fleet and feed and water all the men and women in it, converting ships to minister to the sick and wounded, to carry aircraft, to sweep for mines, to patch up action damage, all this and more, involved the skill and devoted work of men and women up and down the country, ashore and afloat, Service and civilian, not forgetting those in Gibraltar



and Ascension. The magnitude of this successful enterprise is only outlined by the list of ships with which this article is ended. There may have been flaws and faults but the true judgment lies in the fact that Her Majesty's Forces travelled 8,000 miles, liberated British territory the size of Wales against numerically superior land and air forces and freed 1,800 of our fellow citizens at the cost of the lives of three of the local inhabitants and 259 of our Servicemen.

During the process our forces blockaded the Falklands by sea and air, liberated South Georgia, 800 more miles distant, sank a cruiser, crippled a submarine, bottled up the rest of the Argentine Navy, captured and then repatriated more than 10,000 prisoners, destroyed 80 aircraft and helicopters and captured 50 more.

This almost incredible success has been achieved by exceptional periods of continuous steaming, unheard of sortie raids and feats of pilot endurance, (including Ascension to Falklands and back), sustained demonstrations of physical fitness and fighting efficiency and by the unremitting care and skill displayed alike by men and women responsible for maintaining the machines and giving succour to the wounded. All this has been done in extremely trying climatic conditions with the onset of the Atlantic winter.

The first conclusion to be drawn is one of firm confirmation of the value of the high standards of training which can be attained with professional forces. Professionalism is a word much used in commentaries on the actions and activities on our forces.

## Joint Warfare

All in all, the Falklands Expedition has called upon the full range of tactics, techniques and procedures which in British parlance are embraced within the term Joint Warfare. For those who have been concerned with Joint Warfare doctrine and training in recent years there can be cause for satisfaction over the justification of their persistence.

At many times in the post-war period it has been a struggle to keep alive the principles and practices by which land, sea and airforces can operate in harmony to exploit mobility and firepower in pursuit of national objectives. It is somewhat ironic that the Royal Navy, which has frequently been backward in these matters, has had the major part to play in making the Expedition possible.

It was said of the landing in Madagascar that this was the first successful combined operation carried out by the British since Quebec in 1759. This may be unfair and hardly does justice to the British forces in Aboukir Bay in 1801, but there is an element of truth in the assertion. It is a curious fact that the British, who have achieved so much by the exercise of sea power have, generation by generation, disdained the art of projecting power by the landing of forces in a fighting posture. The Royal Marines have an almost unbroken record of service since 1664 but the Royal Navy's attitude to the means of ship-to-shore movement for landing forces has, to put it mildly, been grudging.

For example, special boats for landing troops were commissioned in 1709<sup>1</sup> and others were available for Abercromby's troops at Aboukir a century later, yet in 1914-15 and 1939-40 the Royal Navy lacked efficient landing craft. The only element of continuity in policy through the years has been that of neglect.

In the recent past, the supplementary Defence White Paper of July 1981 entitled "The Way Forward"<sup>2</sup> had struck a curious note of logic:

Three Royal Marine Commandos will be maintained, as at present. The Government regards their special experience and versatility as of high value for tasks both in and beyond the NATO area. It had already been decided that likely needs did not warrant replacement of the specialised amphibious ships *Intrepid* and *Fearless*; and these ships will now be phased out earlier, in 1982 and 1984 respectively.

Again, therefore, there would have been skilled landing forces without the shipping dedicated for their use. The decision on *Fearless* and *Intrepid* was reversed some weeks before the Falklands crisis. No doubt they and their landing craft have played important roles in recent operations. One could wish that evidence was forthcoming, that the Naval Staff is siezed of the need to provide means of carrying landing craft and troop lift helicopters, together with Royal Marines and their equipment. Perhaps *Fearless* and *Intrepid* are too expensive in manpower as well as in money terms. Ingenuity and improvisations provided shipping lift for assault troops in the 1940s. The *Uganda* has been employed as a hospital ship in the present operation but her name had been mentioned as a potential transport for the Royal Marines before the Falkland Crises, cost could be shared with the Department of Education which has used the ship for educational Cruises for children. More Landing Ships Logistic (LSL) will be needed to replace *Sir Tristram* and *Sir Galahad* wrecked in the recent operations. The Royal Navy could add to the order with a bid for two or more for the Royal Marines.

One age-old lesson which was re-learned was "Do not put all your tents into one ship". The loss of the *Atlantic Conveyor* was a grievous blow. Helicopters as well as tents were lost but it was understandable that her role as a transport for Harriers offered the opportunity for a very substantial lift of other stores and equipment.

## Command and Control

Many words have been spoken and written, in the context of nuclear deterrence, about the importance of political will. Misgivings have been expressed about the difficulty of obtaining timely political decisions in order that military dispositions can be made, reserves called out, mobile forces deployed and other preparations made. Such problems are not peculiar to nuclear situations and they can bedevil the task of military planners not least the logisticians. The record of the Norwegian campaign in 1940 abounds with stories of order and counterorder resulting in confusion over the cargoes to be loaded and the sequence of their loading. The Suez operation has been described as a military miracle performed amidst political disaster.<sup>3</sup>



Political indecision resulted in a dispersion of logistics resources with the possibility of grave consequence within the limits of Whitehall approval. From the evidence available to the public the political direction of the Falklands operation has been firm and consistent. Some doubts were expressed about political restraints being imposed in relation to the timing of the main landings on the Falklands. These have been dispelled by firm statements from the Chief of the Defence Staff, Admiral of the Fleet, Sir Terence Lewin, speaking at the Institute's Annual Conference in July. He is quoted as saying "Every military option that we put forward was approved as we wanted it: often I was given covering political approval in anticipation of the event". The Admiral of the Fleet is the first holder of his office to provide the sole military input to the War Cabinet and then transmit the Whitehall decisions to his colleagues on the Chief of Staff Committee. This procedure reflects the move away from the collective role of the Committee in tendering advice to Ministers. Following the recent reorganisation of Ministerial responsibilities in the Ministry of Defence greater stress has been placed on the Chief of the Defence Staff's own advice. It is, of course, equally his task to shield Service commanders from any attempts at "back-seat driving". There is a nice balance to be struck. The Armed Forces have to be a sensitive instrument of Government policy and one could observe the part which the deployment of the Task Forces played in strengthening the British negotiating position in April and early May. At the same time operations and landing operations in particular have to be timed to suit many factors not least the weather. Freedom of action then becomes essential.

Command of the Force has been vested in the Commander-in-Chief Fleet with his resident colleague the Air Officer Commanding No 18 Group RAF as his Air Deputy. These officers are colocated at Northwood, near London, and work together on NATO as well as national commitments. The General Officer Commanding South East District has acted as Land Force Deputy. His Headquarters are at Aldershot. The Naval Commander of the Force holds the appointment of Flag Officer First Flotilla and the Landing Force Commander was the Major General Commando Forces Royal Marines. In passing it can be remarked that one of the key decisions for a Force Commander is when to go where he can lead and when to stay where he can command. There are examples of amphibious operations failing for want of leadership at the top and others because the Commander was away from his headquarters or otherwise separated from effective communications. General Moore had to decide when to move from Northwood to Ascension, when to move from Ascension to a command post afloat and when to take command ashore. It will be very interesting to hear how the Command and Control arrangements worked over the great distances involved and to hear how the mounting of the operation, deployment of reinforcements, air plans and not least the logistic support have been conducted. The absence of a mobile force headquarters, such as that provided by 3 Division in the late 1960s and early 1970s may have been felt, although Headquarters 5 Infantry Brigade had been given a role in this respect in the 1982 Defence White

Paper. In the previous year an existing two-story headquarters had been remarked upon in similar vein.<sup>4</sup>

## Ships and weapons

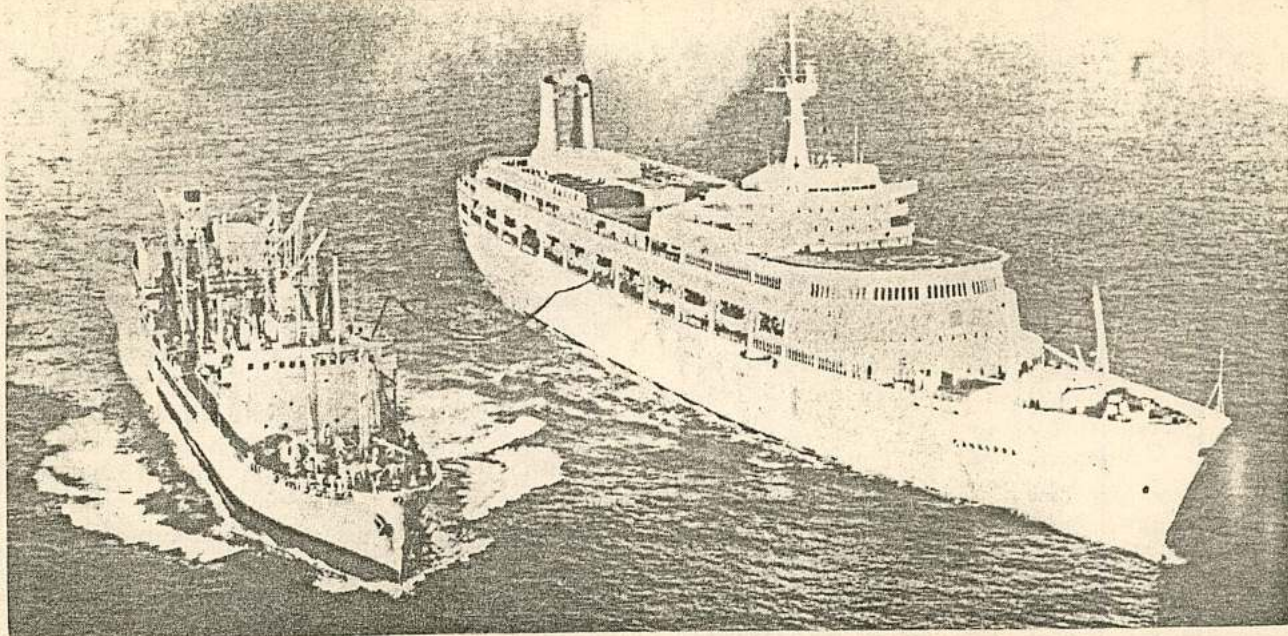
It seems probable that the conduct of operations in the South Atlantic will have called in question the balance of importance between speed and endurance in the choice of propulsion for frigates and destroyers. The burden of replenishment at very frequent intervals must have strained logistic resources as well as taxing the endurance of captains and ship commanders. The very heavy demands for replenishment will have fallen hardest on the ships with the full outfit of equipment. It may be necessary to develop a system of reserve support ships fitted and available on call from trade. This emphasises the importance of reviewing the question of subsidies to companies to include some naval features in their ships when building or refitting, as was the case with stiffening for guns in merchant ships between the wars.

Similarly, the conversion of merchant vessels to carry aircraft at very short notice raises the question of resurrecting Woolworth carrier designs to provide a more practical number of "aircraft carriers" than the two or perhaps three to which we are restricted by present costs. The doctrine of administrative impossibility and professional reluctance has taken a severe knock in recent weeks and the time is therefore ripe for every sort of improvisation and originality to be given sympathetic vein. The 1982 White Paper seems to be encouraging thought in this direction with its emphasis on the use of National resources.<sup>5</sup> The fishing Industry has been called in to help with trawlers converted to minesweepers and an oil rig support ship to help with repairs. Once again therefore the elements of maritime power are working in harmony for a common purpose. The danger is that if the United Kingdom and its Allies fail to support their mercantile and fishing fleets, one day they may be called upon in vain. For example, it is questionable whether BP will have 12 tankers for the Royal Navy to press into service again.

Public interest has centred on the combustibility of materials used in the construction, fitting and furnishing of HM ships. The incidence of noxious gas appears to have been a significant factor in which the composition of the insulation of ships wiring, furniture and bedding may have played sinister parts. Apart from reducing these hazards it seems necessary to review the scale of issue of breathing sets for ships' companies. The layout of ships appears to need review again. It has been suggested that lessons from the past have been set aside in modern construction. Thus the hit on the Control room of HMS *Sheffield* reputedly left the ship with no power and no pumps. Alternative sources of power, duplication of pumps forward and aft, secondary lighting, were commonplace in the past.

The use of aluminium in ship construction has been much discussed in recent years (for example in *Modern Warship Design and Development* by Norman Friedman<sup>6</sup>). The melting point of aluminium is a relevant factor when considering the heat generated by main propulsion gas turbines quite apart from the heat of





An RFA tanker refuels SS *Canberra* in the South Atlantic. (MOD)

an explosion or burning missile fuel. One can only be comforted at the comparative lightness of the casualty lists in ships which became total losses.

The assessment of damage to naval vessels will provide much food for thought. The heaviest loss of life was caused by torpedoes (the Argentine *General Belgrano*).<sup>7</sup> HM Ships such as *Glasgow* were fortunate not to have suffered heavier damage from bombs which hit but did not explode. The relative success of missiles and bombs will need analyses but the impact of Exocet missiles has been the most dramatic and ostensibly the most significant.

The gun has had a revival and there will be further consideration of the fitting policy. The reports of naval bombardment formed a substantial part of early accounts of Falklands operations and the effectiveness of air fire support will have to be carefully analysed. Many navies will be looking over the shoulders of RN Gunnery Officers as they work out their recommendations for the future.

## Public information

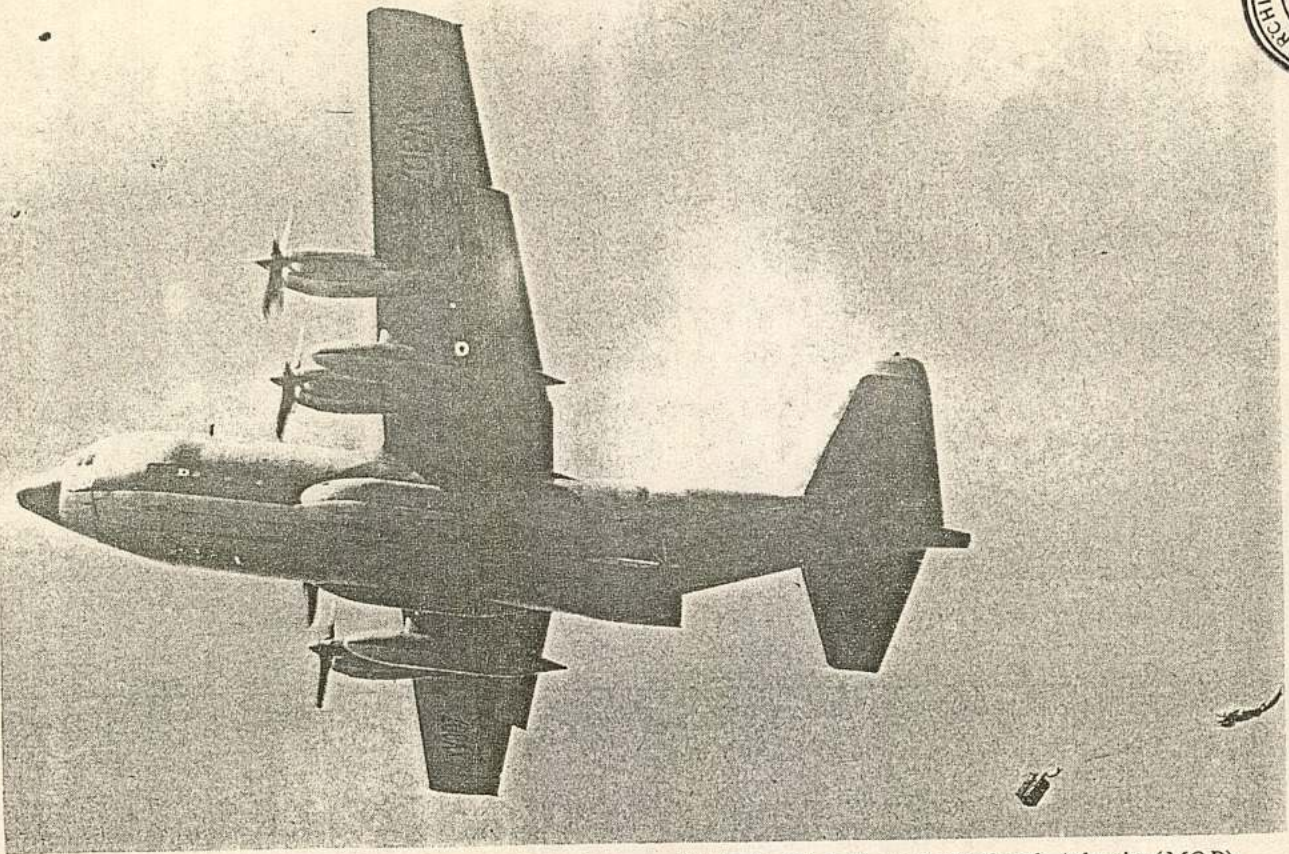
At the time of writing the Prime Minister and the Leader of the Opposition in the British Parliament are disputing over the form of the Governmental Inquiry which has been promised to examine the origins of what is now known as the Falklands crisis. As early as 5 April the House of Commons Select Committee on Defence announced its intention of conducting an inquiry concerning the state of readiness of Her Majesty's Forces in relation to the situation in the Falkland Islands and the dispositions which were made in the period up to April 1982. The Committee later notified the Secretary of State for Defence, the Rt Hon John Nott MP, about the defence aspects of the Falkland Islands conflict which they would wish to explore once the immediate operations had been concluded. On 9 June the Committee confirmed their

intention to give close attention, among the several subjects for consideration, to the handling by the Ministry of Defence of public and press information about the conflict. This is a many-sided subject which broadens into a significant, and often neglected element of national security planning and international relations, the recognition of information services as an arm of Government.

The Falklands Expedition has provided the first opportunity for the British people to experience in their own homes the full blast of war reporting about our Forces by all arms of the so-called Media. It is significant that the Falklands Task Force has been often described as the largest assembly of British naval forces since Suez. The notoriety of the political disaster with which our forces were associated in 1956 has seemingly left memories green, whereas the success of the Commonwealth resistance to Indonesian aggression against Malaysia in 1964-66 is forgotten. Yet the Naval assembly in and around Singapore and the coasts of East and West Malaysia at that time was significantly larger than those in the South Atlantic. The land and air forces actively involved were considerably greater in the Far East.<sup>8</sup>

Technical difficulties made it generally impossible for film reports from British correspondents to reach viewers in the UK. Similarly, pressure on communication channels dictated that reports from the Task Group were in some respects less informative than reports emanating from Buenos Aires. This is not to say that the latter were more accurate. The result of the physical limitations on the flow of information from the British Force was an unsatisfactory degree of dependence upon other sources. This handicap aggravated the difficulties of casualty reporting with the maximum speed and accuracy, to spare the feelings of families and friends. In former times with the exception of HMS *Ark Royal*, which was repeatedly sunk by German propaganda in the early days of





An RAF Hercules carries out an air drop of supplies to a ship in the Task Force in the South Atlantic. (MOD)

World War II, security of information about ship or troop movements gave little scope for identifying individual units involved in actions reported from friendly, neutral or enemy sources. The particular circumstances of the South Atlantic operations and the lack of general censorship meant that the families of men in ships or army units could very easily associate them with incidents reported by Argentine or US sources. Lack of material in the form of first-hand reports from British Forces led to accusations that television and radio news and current affairs programmes have had an unpatriotic bias and have encouraged speculation about future operations.

These and other matters are likely to be investigated by the Defence Select Committee. They will also be concerned with the impact on World opinion of the news of events such as the sinking of the Argentine cruiser *General Belgrano* by torpedoes fired by a British submarine and the loss of the Type 42 Destroyer HMS *Sheffield*, after a hit by an Exocet missile.

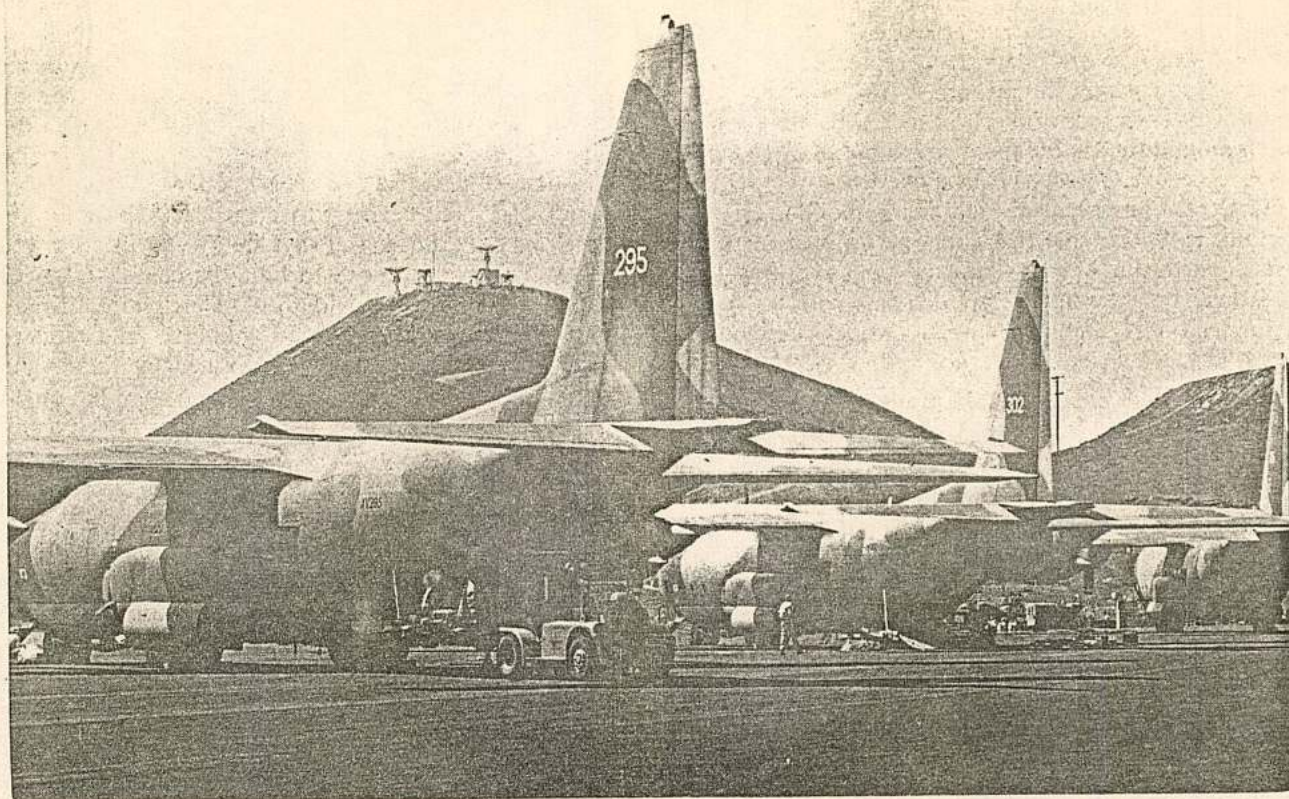
Opinion was shocked by the number of casualties in the Cruiser's Company although the earlier figures quoted were exaggerated. The loss of HMS *Sheffield* and more than 20 of her crew came as a great shock to the British people. This is an interesting comment on the relative security which we have enjoyed in the past ten years, with the tragic exception of events in Northern Ireland. Other losses followed, each with their toll of casualties, but it was *Sheffield* which brought home to the British people the reality of naval warfare in the missile age.

## Air power

It has long been a precept of Joint Warfare that landing operations in daylight in the face of an air threat represent a serious risk. Every endeavour must be made to create a favourable air situation. The handful of Sea Harriers and Harrier GRs performed prodigies in defending the Force against air attack. In their absence the heaviest casualties were sustained when the LSLs *Sir Tristram* and *Sir Galahad* were successfully attacked. It is a credit to them and the naval escort that, apart from these two landing ships and the *Atlantic Conveyor*, damage and casualties were sustained by HM Ships and not by those they were charged to defend.

The absence of Airborne Early Warning (AEW) created major difficulties for the Force but this manifest deficiency hardly counts as a lesson. It can be argued that if the Royal Navy had given its whole-hearted support to the development of Short Take Off and Vertical Landing (STOVL) in the 1960s it could have had developed Harriers years ago instead of leaving this to the US Marine Corps. It seems unlikely that in the process the Fleet Air Arm would have failed to create a replacement for the Gannet. At the same time proper recognition of the new concept of air power at sea would have provided the drive necessary to produce small carriers. Had this been the case the Fleet would have possessed a group of light STOVL carriers instead of relying on two without the possibility of rotation, relief or replacement as was necessary in the





RAF Hercules transport aircraft unload cargo on Wideawake Airfield, Ascension Island. (MOD)

South Atlantic. It must have been a close-run thing. It is remarkable that circumstances, good luck and good management have enabled the Force to maintain two carriers on station for the time required to achieve its objectives. It is to be hoped that the realisation of how much has depended upon HM ships *Hermes* and *Invincible* will have had its impact in high places. This realisation should lead to acceptance of the fact that two ships of specialist characteristics do not constitute a capability which can be relied upon at all times. The original concept of STOVL carriers in the 1960s envisaged a group of (say) six ships at about the cost of two of the proposed new carriers designated CVAO1 and O2. Obviously the larger number of hulls would draw the string from the "eggs in one basket" argument about large carrier vulnerability.

In the light of the damage caused by the limited capabilities of the Argentine Air Force in the geographic circumstances of the Falklands campaign, the US Navy may have to think hard about its concept of strike carrier operations and its implications for the construction programme. One wonders if the experience of Kamikaze attack can be applied to defence against missiles. Reports of the firepower developed by the limited resources of the Task Force suggested a soft echo of Pacific days off Okinawa. Judgments about the relative success of aircraft, guns, missiles and small arms fire in repelling and destroying enemy aircraft must await full assessments. It was significant that rapid fire weapons of various calibres were called into use.

Helicopters have played a very important role in antisubmarine warfare and in troop lift, reconnaissance,

casualty evacuation and command communications. By all accounts the courage and endurance of their pilots has only been matched by that of their Harrier counterparts. All these highly trained and now battle experienced pilots can advise on airspace management problems, air/ground liaison and the duties of Forward Air Controllers.

Newspaper reports have begun to reveal the part played by Ascension Island and the United States Wideawake airfield. It is apparent that a monumental task has been accomplished, with fixed wing and helicopter movements exceeding traffic at the world's busiest airports. One of the striking features of the Falklands operations has been the extremely rapid improvement in the capability of the Royal Air Force for in-flight refuelling. It has been well understood that greater tanker resources were needed but the notable achievement has been the creation of capability in Nimrod and Hercules not previously fitted to receive fuel in flight. Some of the latter aircraft may have had a tanker conversion. The peculiar geographical circumstances of the Falklands operation have provided impressive illustrations of the merits of modern airships. Their capability for reconnaissance, surveillance and, most significantly for AEW commend them for further active consideration, as do their possibilities in anti-submarine warfare and mine-countermeasures.

### Landing forces

As the core units of the landing force were made known it was evident that the First XI was being fielded. It is not immodest to say that three Royal



Marines Commandos, two battalions of the Parachute Regiment and a battalion each of Scots Guards, Welsh Guards and Gurkhas represent the very best infantry striking force that the world's armies could produce. Their performance has served to enhance their reputation and the speed with which they achieved their objectives in very adverse conditions of weather and terrain has been an example of mobile forces in action. It is fortunate that some Royal Marines units were particularly well-equipped to cope with the weather and terrain. Many lessons will be forthcoming. It is better to round off with a reminder of the work which will have been done by the Royal Artillery units, the Royal Engineers and the Royal Corps of Transport. Each will have a record to be proud of. Mention has already been made of those who care for men and for machines. Many soldiers and sailors have come to be grateful for the help they have received from doctors and nursing staff. The Force will have been grateful to those who have kept their machines and equipment in fighting order. Finally, as one who has been so much concerned with landing operations the writer of this article has been much impressed by the way the landing force was put ashore in San Carlos Bay. The organisation needed to achieve this is an unsung saga of staff-work based on many years experience. It is fortunate that cuts in our capabilities have not allowed this essential expertise to wither.

## Retrospect

In conclusion, it can be said that at the beginning of April 1982 the Government of the United Kingdom found itself in a politico-strategic nightmare with the most alarming diplomatic, tactical and logistical features. The military solution, if it can be labelled with such an easy-sounding word, was to deploy land forces over 8,000 miles into the approaching Antarctic winter. Their task would be to confront and if, necessary, eject a well-equipped garrison likely to exceed their own numbers in the face of a serious threat from land-based airpower and a by no means negligible air, surface and sub-surface threat at sea. The risks to the safety and well-being of the civilian population were alarmingly apparent, but one must not prejudge the conclusions of any Inquiry into the Falklands crisis.

There are two general lessons to be absorbed from the experience of these past weeks. First, when cuts are made in force levels and equipment programmes Ministers must be made aware of the capability they are surrendering and the consequent loss of options in the employment of military forces as a means of maintaining freedom of political action. Comfortable words like "red carpet treatment" or "by invitation only" or "the oil will always flow" are all very well as artificial assumptions to blur the consequences of cuts in capability or deployment. They seldom live up to expectations in the harsh realities of the modern world. The second lesson is summed up in the old adage, "Do not put off until tomorrow what ought to be done today". It is far easier and less costly in life and treasure to deter aggression than it is to wrest from an aggressor the fruits of his aggression.

1 *The Mariner's Mirror* (Journal of the Society for Nautical Research) 67 (2) May 1981, 124. Curiously enough these were ordered by a Colonel Vetch of Boston, Mass., for a seaborne attack on Quebec.

2 Cmd 8288 June 1981 (HM Stationery Office) p. 31.

3 So described at the time by the writer of this article and others. The designated hospital ship, for example, was off the Cape of Good Hope.

4 The Statements on the Defence Estimates 1981 and 1982. Cmd 8212 paragraph 416 and Cmd 8529 paragraph 238 respectively.

5 Ibid. 1982, p. 17.

6 Conway Press, Greenwich, 1979.

7 The final figure quoted by Argentina was 350. Even this much reduced figure was surprising considering that two modern escorts were in company. There was considerable confusion in the reports about the sinking and it seemed that the UK forfeited some international sympathy, which the almost bloodless liberation of South Georgia (one Argentine killed) had left intact or reinforced.

8 The Far East Fleet consisted of two strike carriers, sometimes reinforced to a total of four including HMH *Melbourne*, a Commando Ship (LPH), an assault ship (LP) and a wide sweep of destroyers, frigates and submarines, including ships from the RAN and RNZN. The Inshore Flotilla alone mustered 25 ships, the majority MCM (V) of the Ton class and Seaward Defence Boats. The land forces deployed in Malaysia were considerably in excess of the two Brigade Groups in the Falklands. Land-based air power was readily available in the Malaysian situation but in the South Atlantic the great distances and lack of diversion air fields made the deployment of shore-based aircraft extremely difficult. The logistic support of the Falklands, involved a supply line 8,000 miles long, with only an air staging post on Ascension Island and anchorages in South Georgia, by contrast with the chain of support facilities along the old imperial route to the Far East which existed in the 1960s.





# Ships in the Falkland Islands Task Force

## Senior Commanders

Chief of the Defence Staff, Admiral of the Fleet Sir Terence Lewin, GCB, MVO, DSC.  
 First Sea Lord, Admiral Sir Henry Leach, GCB, ADC.  
 Commander-in-Chief, Fleet, Admiral Sir John Fieldhouse, KCB.  
 Flag Officer, First Flotilla, Rear Admiral John Woodward.  
 Commodore of the Royal Fleet Auxiliary, Captain S. C. Dunlop.

## Warships

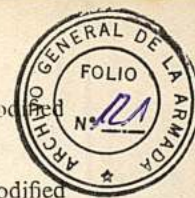
### Aircraft Carriers

Hermes <sup>b</sup>	28,700 tons 1,350 crew 28 knots	2 Quad Seacat SAM launchers (GWS.22) 10 Harriers 18 Sea King
Invincible <sup>b</sup>	19,810 tons 1,000 crew 28 knots	2 Sea Dart SAM launchers 6 Harriers 15 Sea King

### Destroyers and Frigates

Bristol (Type 82)	7,100 tons 407 crew 29 knots	2 Sea Dart SAM launchers 1 Ikara ASW launcher 1 4.5 in. Gun + 2 20 mm Cannons Facility for a Wasp helicopter
Antrim Glamorgan (County class)	6,200 tons 471 crew 30 knots	4 MM.38 Exocet SSM 2 Seaslug Mk. 2 SAM launchers 2 Quad Seacat SAM launchers (GWS.22) 2 4.5 in. Guns 1 Wessex HAS.3 ASW helicopter
Cardiff Coventry (sunk) Exeter Glasgow Sheffield (sunk) (Type 42)	4,100 tons 268 crew 29 knots	2 Sea Dart SAM launchers 6 Mark 32 ASW Torpedo tubes 1 4.5 in. Gun + 2 20 mm Cannons 1 Sea Lynx HAS.2 ASW helicopter
Brilliant Broadsword Battleaxe <sup>a</sup> (Type 22)	4,000 tons 223 crew 30 knots	12 Sea Wolf SAM launchers 4 MM.38 Exocet SSM 6 Mark 32 ASW Torpedo tubes 2 40 mm Guns 2 Sea Lynx HAS.2 ASW helicopters 4 MM.38 Exocet SSM
Active Alacrity Ambuscade <sup>a</sup> Antelope (sunk) Ardent (sunk) Arrow Avenger <sup>a</sup> (Type 21)	3,250 tons 235 crew 30 knots	1 4.5 in. Gun + 2 20 mm Cannons 1 Quad Seacat SAM launcher (GWS.24) 6 Mark 32 ASW Torpedo tubes 1 Sea Lynx HAS.2 ASW helicopter
Argonaut Penelope <sup>a</sup> Minerva <sup>a</sup> (Leander class—Exocet Group)	3,200 tons 223 crew 28 knots	4 MM.38 Exocet SSM 3 Quad Seacat SAM launchers (GWS.22) 6 Mark 32 ASW Torpedo tubes 2 40 mm Guns 1 Wasp (or Sea Lynx HAS.2) ASW helicopter
Ariadne <sup>a</sup> Bacchante <sup>a</sup> (Leander class—Broad-beamed Group)	2,962 tons 260 crew 28 knots	1 Quad Seacat SAM launcher (GWS.22) 2 4.5 in. Guns + 2 20 mm Cannon 1 Limbo depth-charge mortar 1 Wasp (or Sea Lynx HAS.2) ASW helicopter
Andromeda (Oeander class—Broad-beamed converted Group)	2,962 tons 260 crew 28 knots	12 Sea Wolf SAM launchers 4 MM.38 Exocet SSM 6 Mark ASW Torpedo tubes 1 Sea Lynx HAS.2 ASW helicopter
Aurora <sup>a</sup> Euryalus <sup>a</sup> Dido <sup>a</sup> (Leander class—Ikara Group)	2,860 tons 257 crew 28 knots	1 Ikara ASW launcher 2 Quad Seacat SAM launchers (GWS.22) 1 Limbo depth-charge mortar 2 40 mm Guns 1 Wasp
Yarmouth Plymouth (Rothsay class)	2,800 tons 235 crew 30 knots	1 Quad Seacat SAM launcher (GWS.20) 2 4.5 in. Guns 1 Limbo depth-charge mortar 1 Wasp ASW helicopter





### Submarines

Splendid (Swiftsure class)	4,500 tons 97 crew + 30 knots
Conqueror (Churchill & Valiant class)	4,900 tons 103 crew + 30 knots
(Oberon & Porpoise class)	2,410 tons 69 crew 12 (17 dived) knots

5 21 in. Torpedo tubes with 25 Mark 24 Modified  
Tigerfish torpedoes

6 21 in. Torpedo tubes with 32 Mark 24 Modified  
Tigerfish torpedoes

8 21 in. Torpedo tubes (6 bow, 2 aft)  
24 Mark 24 Modified Tigerfish torpedoes

### Amphibious Warfare Vessels

#### Landing Platform Dock (LPD)

Fearless	12,120 tons
Intrepid	580 crew 21 knots

4 Quad Seacat SAM launchers (GWS.20)  
2 40 mm Guns  
4 Landing Craft Mechanised (LCM)  
(100 ton load each)  
4 Landing Craft Vehicle & Personnel  
(LCVP) (5 ton load each)  
Facility for 5 Wessex or 4 Sea King helicopters  
Accommodates 400 troops for extended period or  
700 troops for short-time

#### Landing Ship Logistic (LSL)

Sir Bedivere	5,674 tons
Sir Galahad (sunk)	68 crew
Sir Geraint	17 knots
Sir Percivale	
Sir Tristram	

2 40 mm Guns (possibly fitted)  
Facility for helicopter operations  
Accommodates 340 troops for extended period or  
534 for a short-time.  
(These ships are RFA manned)

### Troop Transports and Equipment Ferries

QEII	67,000 tons
Canberra	44,807
Norland	12,000
Tor Caledonia	10,000
St. Edmunds	9,000
Rangatira	8,990
Nordic Ferry	6,500
Baltic Ferry	6,500
Elk	5,463
Europic	4,190
Atlantic Conveyor (sunk)	14,946
Atlantic Causeway	14,946
Contender Bezant	11,000

Req Cunard Liner. Facilities for helicopter operations  
Req P&O Liner. Facilities for helicopter operations  
Req P&O Ro-Ro ferry  
Req Whitwill Ro-Ro ferry  
Req Sealink Ro-Ro ferry  
Req Passtruct Ro-Ro ferry  
Req Townsend Thoresen Ro-Ro ferry  
Req Townsend Thoresen Ro-Ro ferry  
Req P&O Ro-Ro ferry. 2 40 mm Guns.  
Req Townsend Thoresen Ro-Ro ferry  
Req Cunard Container Ship converted to aircraft  
ferry  
Req Cunard Container Ship converted to aircraft  
ferry  
Req Sea Containers Ltd container ship

### Supply Ships

Fort Austin <sup>d</sup>	23,600 tons
Fort Grange	185 crew 22 knots
Resource	22,890 tons
Regent	171 crew 21 knots
Stormness	16,792 tons
Finnanger	6,061
Saxonia	8,000
Lycanon	11,804
Geestport	9,750

RFA Fleet replenishment ship. Facility for 4 Sea King  
helicopters

RFA Fleet replenishment ship. Facility for 4 Sea King  
helicopters

RFA Stores support ship  
Char Norwegian freighter  
Req Cunard freighter  
Char China Mutual Steamship freighter  
Char freighter

### Support Ships

Uganda	16,907 tons
Hydra	2,744
Hecate	2,744
Hecla	2,744
British Enterprise III	1,600
Stena Seaspread	6,061

Req P&O Liner. Converted into a hospital ship  
RFA Casualty ferry  
RFA Casualty ferry  
RFA Casualty ferry  
Req BUE North Sea oil-rig support ship (manned-  
submersible support)  
Req Stena North Sea oil-rig support ship



Siena Prospector	7,000 tons	Req Siena North Sea oil-rig support ship
Engadine	9,000	RFA Helicopter support ship
Pict	1,478	Req United Trawlers. Minesweeper tender
Cordella	1,238	Req J. Marr trawler. Minesweeper
Farnella	1,207	Req J. Marr trawler. Minesweeper
Junella	1,615	Req J. Marr trawler. Minesweeper
Northella	1,238	Req J. Marr trawler. Minesweeper
Salvagman	1,568	Req United Towing ocean tug (20,000 hp)
Yorkshireman	689	Req United Towing ocean tug (9,000 hp)
Irishman	689	Req United Towing ocean tug (9,000 hp)
Wimpey Seahorse	1,599	Req Wimpey Marine ocean tug
Endurance	3,600	Ice patrol ship. 2 20 mm Cannon. 2 Wasp ASW helicopters
St. Helena	3,150	Req United International Bank Ltd islands supply ship
Iris	3,873	Char British Telecom cable ship
<b>Tankers</b>		
Bayleaf	40,000 tons	RFA tanker
Scottish Eagle	33,000	Char King Line tanker
Alvega	33,000	Char Finance for Shipping Ltd. tanker
Balder London	33,000	Char Lloyds of London tanker
Olmeda	36,000	RFA tanker
Olwen	36,000	RFA tanker
Olva	36,000	RFA tanker
Tidespring	27,400	RFA tanker
Tidepool	27,400	RFA tanker
Pearleaf	25,790	RFA tanker
Bayleaf	20,320	RFA tanker
Fort Toronto	19,982	Char Canadian Pacific water tanker
Eburna	19,763	Char Shell tanker
G. A. Walker	18,744	Char Canadian Pacific tanker
Dart	15,650	Char BP tanker
Test	15,653	Char BP tanker
Tay	15,650	Char BP tanker
Trent	15,649	Char BP tanker
Wye	15,649	Char BP tanker
Esk	15,643	Char BP tanker
Tamar	15,642	Char BP tanker
Avon	15,640	Char BP tanker
Anco Charger	15,974	Char P&O tanker
Luminetta	14,925	Char Cunard tanker
Ivy	13,271	Char BP tanker
Fern	13,252	Char BP tanker
Fawley	11,064	Char Esso tanker
Blue Rover	11,522	RFA tanker
Grey Rover	11,522	RFA tanker
Cortina	6,499	Char Swedish tanker
Corona	4,899	Char Swedish tanker
Orionman	3,623	Char tanker
Vinga Polaris	?	Char tanker

**Notes:**

- <sup>a</sup> The presence of these vessels with the Task Force is still unconfirmed.
- <sup>b</sup> The numbers for aircraft are those that were onboard the aircraft carriers at the beginning of hostilities. Losses and operational necessity would have altered these numbers considerably.
- <sup>c</sup> Only two submarines are known to have been present in the South Atlantic.
- <sup>d</sup> Ship flying the board-pendant of the Commodore of the Royal Fleet Auxiliary.

ASW Anti-Submarine Warfare  
Char Chartered  
GWS Guided Weapons System  
Req Requisitioned  
RFA Royal Fleet Auxiliary  
Ro-Ro Roll-on, Roll-off  
SAM Surface to Air Missile  
SSM Surface to Surface Missile

This list is compiled from unclassified sources.





ESCUELA DE GUERRA NAVAL

TACTICA

THE FALKLANDS. LESSONS FOR NATO

(Navy International OCT. 82)







# THE FALKLANDS

## Lessons for NATO



by Sir Patrick Wall MP

**The Falkland Islands campaign is unique in the history of amphibious warfare. Unique because of its unexpectedness, the distance and conditions under which it was fought and the speed at which it was concluded. It holds many lessons for NATO and even more for the Warsaw Pact.**

First of these is that determined political and military leadership is the key to success in war. Mrs Thatcher was unique in her determination to rescue the Falkland islanders from foreign invasion. She was supported by some of her Cabinet and by the majority of Conservative backbenchers in Parliament. Unlike Suez, her leadership and their enthusiasm converted the remainder of the Cabinet, the Party in Parliament and even the Opposition!

The country responded to this leadership, the popularity of the Prime Minister rising from 35% to a peak of 52% and her Party from 31½% to 46½%.

Even though the campaign was fought outside the NATO boundaries, Britain's NATO allies responded magnificently not only in cutting off all arms supplies to the Argentine, but by imposing economic sanctions. The USA, in the person of their Secretary of State, undertook the thankless tasks of negotiating a settlement in accordance with the UN Resolutions, and when this failed threw their full weight short of active participation behind Britain.

### Preparation and passage

The Royal Navy mobilized some 30 warships supported by some 70 RFAs and merchant ships from the liner *QE 2* down to tugs and minesweeping trawlers.

The outstanding achievement is that the main body of the Fleet sailed prepared for war in just three days. Dockyard workers, some because of naval cuts with redundancy notices in their pockets, worked night and day to prepare *QE 2* and *Canberra* as troopships with helicopter platforms. Their opposite numbers in Gibraltar dockyard performed the same task for the conversion of *Uganda* into a hospital ship.

The RN today is designed for ASW in the North Atlantic, and suddenly found itself facing a conventional war in the South Atlantic. As a result it found itself deficient in certain areas *eg* the lack of close in air defence weapons.

The Fleet was divided into an assault force consisting of the main warships, the assault ships and *Canberra* and the follow-up force of *QE 2* escorted by a number of warships together with Nimrod ASW aircraft.

In any conflict with the Warsaw Pact in Europe, the use by NATO of warning time which could be as short as three days, is vital. During this period reinforcements must

arrive by air from the US and Canada, troops in the North, Central and Southern Fronts, moved up to their battle stations, Danish straits mined *etc.* The fact that the British with no warning managed to mobilize their Fleet in three days, will be a lesson to the leaders in the Kremlin that they cannot take aggression for granted.

Another lesson is the rapid mobilization of commercial assets including the immediate requisitioning of container ships to transport Harrier and helicopter reinforcements, tankers, store ships *etc.* Some years ago the North Atlantic Assembly urged all governments to enact legislation to enable them to take up civilian ships and aircraft without the declaration of a state of emergency — some NATO governments still have not obtained these essential powers.

The Falkland Islands demonstrated the important role of the Merchant Navy and the risk Britain and the US run by allowing the continued run-down of their merchant fleets, together with the transfer of ships to flags of convenience with foreign crews whose legal position in an emergency would be very doubtful. It also illustrates that though the day of the armed merchant cruiser is over, the auxiliary ASW aircraft carrier will be of great importance in any future Battle of the Atlantic. (*eg* the ARAPAHU) project which has been investigated by both the USN and the RN.)

As all the ships had some 8,000 miles to cover before the campaign could commence, Ascension Island formed an essential base, both for ships and aircraft. Any necessary sorting out of stores between the various ships was carried out by helicopters, both at sea and off Ascension Island. Britain should note that the disposal of islands in the Indian Ocean and elsewhere (such as Gan or Mazirah) may prove to have been a costly mistake especially at a time when the United States is acquiring the use of such islands as bases for their Rapid Deployment Force.

The value of the SSN was proved beyond doubt, even in a conventional war, when two or three British submarines bottled up the Argentine fleet in their ports. After the sinking of the *General Belgrano* by HMS *Conqueror*, the Argentine fleet played very little further part in the war although their German built submarines were active. Their mining effort in the Falklands was fairly intensive, but the RN 'Hunts' and requisitioned trawler sweepers have speedily managed to clear the seas without loss.



## The Amphibious Assault

The current doctrine in most navies is that amphibious assault cannot be carried out against active opposition or without command of the air.

The British Special Boat Section (Royal Marines) and the Special Air Section (Army) carried out both reconnaissance and raids in various parts of the islands prior to the assault. Even they did not expect the actual landing to be unopposed from the shore.

During the assault, the Fleet suffered damage from Argentine air attacks which were pressed home with great gallantry. If the Argentine planes had managed to put out of action either of the two carriers or the two assault ships, the landing might never have taken place.

The Task Force's main handicap was the lack of AEW, the Nimrod IIIs will not be operational until 1983 or later and the old Gannets were phased out with the scrapping of HMS *Ark Royal* and *Eagle*. As a result, destroyers had to be risked on radar picket duties — hence the loss of HMS *Sheffield* and *Coventry* to an EXOCET missile and bombs respectively. *Sheffield*, the first warship to be lost to a missile since the sinking of the Israeli destroyer *Eilat* in 1964, was caught by a sea skimming missile discharged at a 30 mile range from a Super Etendard aircraft. It is said that the warhead did not explode and that the rocket motor did the damage. It is also said that *Sheffield* had her long range radar switched off due to satellite transmission.

Two frigates were lost and many warships damaged in the Falklands Sound by bombs. The Argentines had two British built destroyers armed with SEA DART missiles and therefore knew the system's envelope and flew low, which made them difficult targets, but also meant that many of their bombs failed to arm in time before they hit their targets.

British SAM included SEA DART, SEA WOLF and the older SEA CAT. They are credited with eight, six and five aircraft respectively. Meanwhile the Harriers had shot down 27 to 31 Argentine aircraft without loss. Five Harriers were lost to ground fire and four by accident in appalling weather conditions.

The two Assault Ships with their landing craft had been earmarked for the scrap heap but, partly due to parliamentary pressure prior to the campaign were retained. Without them the successful campaign could not have been fought.

The gun once again came into its own, most ships' gun barrels being worn out by the number of rounds they fired in bombardment.

The 3rd Commando Brigade of Royal Marines and Paratroops formed the assault force and landed from the two Assault Ships and *Canberra* at San Carlos Bay on May 20 after four weeks on passage, phase I being a simultaneous beach assault by 40 Cdo and 2 Para to secure San Carlos and Sussex Mountain. In Phase II 45 Cdo and 3 Para secured Ajax Bay and Port San Carlos settlement respectively. Phase III consisted of a landing by helicopters of artillery and air defence weapons to cover the bridgehead. 42 Cdo remained in reserve. These landings were virtually unopposed, though the SBS with artillery FOOs had a sharp battle on Fanning Head prior to the main landing, while the SAS carried out

diversionary tactics near Goose Green.

The lessons learnt from this part of the campaign are many. The doctrine of non-opposed amphibious assault is correct, but amphibious warfare provides unique flexibility, particularly to a sea power. The danger of Soviet amphibious forces in North Norway and Polish amphibious forces in the Baltic must be met by both land and air defences.

AEW and ECM are essential and these capabilities can be extended by the use of air refuelling. In default of carrier based AEW aircraft, AWACs would have been invaluable but could not be provided as it was American manned. Efforts are now being made to mount AEW equipment in helicopters but it is doubtful if they can gain sufficient height to make this a really effective solution.

The lessons of World War II concerning the lack of ships' air defences had to be re-learned, but luckily the cost, owing to unexploded bombs, was not greater. SEA WOLF, the only existing anti-missile missile, proved itself against aircraft, but its anti-missile capability was not tested for no missiles were fired against the vessels armed with SEAWOLF. Because of its weight, it was only fitted to two warships but a new two or four barrelled launcher of 6¼ tons is now being developed which could be fitted to most warships, RFAs and even merchant ships. Meanwhile the American Vulcan-PHALANX gun is being used as a stop-gap. Even machine guns were effective against low flying aircraft but the danger from the Soviets lies in their missiles, submarine, air or surface launched.

The argument as to whether the Soviet fleet and Naval Air Arm can be contained by the USN's nuclear carriers will continue. These carriers have integral AEW, attack, fighter and ASW aircraft as well as helicopters *etc*, but they are large targets and have to be protected by cruisers, destroyers, frigates and nuclear submarines. This is a cost that only the super powers can afford. The Falklands has shown that small carriers of 16,000 to 20,000 tons carrying V/STOL aircraft and helicopters can be effective in combatting supersonic aircraft, which should prove a boost for the new Anglo-American AV8B!

## Summary

The Soviet Union must have had a shock at the determination of British leadership, the speed of British mobilization and the immediate support given by its allies. The skill displayed by the British forces and the use of civilian assets must have been a further surprise.

To NATO, the Falkland Islands campaign emphasizes the importance of good training and communications, the operations of all three Services as one, the need for more adequate air defence at all levels and the value of VSTOL aircraft. And it is to be hoped that this fact will be noted by the US Navy and the Federal Republic of Germany. One of the most urgent needs in Europe, that of improved anti-armour defences, of course played no part in the Falkland Islands campaign.

The lessons of the Falkland Islands campaign are that aggression does not pay. We have a duty to make sure that this also applies to Europe. □

*Major Sir Patrick Wall MP is a member of the British Parliament's Select Committee on Defence and a Vice President of the North Atlantic Assembly.*





ESCUELA DE GUERRA NAVAL

TACTICA

INFORMACION DEL AGREGADO MILITAR EN BONN

(27 SEP. 82)







Información del Agregado Militar en BONN

ASUNTO: GUERRA DE LAS MALVINAS.

En la revista "Marine Forum" número de septiembre, se ha publicado un artículo del Almirante G. Liebig, Jefe de la División de Operaciones del E.M. de la Marina alemana quien a la vista de las informaciones recibidas de los acontecimientos que sucedieron durante la guerra de las Malvinas, hace unas consideraciones estratégicas y tácticas sobre el poder naval de la OTAN y posteriormente saca unas conclusiones de ellas. Entre aquellas destaca:

- La dependencia de Europa occidental de la seguridad de las vías marítimas atlánticas.
- El desarrollo de la marina oceánica soviética en los últimos veinte años y su amenaza por ello para Occidente.
- La necesidad de una presencia permanente de las fuerzas navales occidentales en el Atlántico para ejercer el dominio del mar.
- Solamente los buques del tipo fragata, destructor o portaaviones, como plataformas de aeronaves y armas, pueden realizar un efectivo dominio del mar en un ámbito tan grande y con tan variadas condiciones como el Atlántico.
- La precisión de las armas actuales, los cortos tiempos de reacción, el desarrollo de la guerra electrónica y de los sistemas de reconocimiento y localización obligan a la formación de "grupos de combate". Esto permite operar en la mar durante mucho más tiempo contra cualquier amenaza.
- En la zona europea de operaciones navales, los buques de la NATO pueden operar bajo la protección de la aviación basada en tierra. En el caso de las Malvinas, los ingleses no tuvieron los medios adecuados para el reconocimiento del espacio aéreo y así poder obtener la alerta previa precisa.

Las conclusiones que se exponen al final del artículo son:

- Se ha experimentado de nuevo que en las operaciones navales el Concepto de la Operación y la situación táctica son factores decisivos

.../para el éxito o ...



para el éxito o el fracaso.

- Mientras que el "dominio del mar" sea necesario, -y en el caso de la OTAN se prevé que lo sea durante mucho tiempo-, se requiere la presencia naval en amplios espacios marítimos y en permanencia. Esto da especial significado al empleo de buques de superficie. Ni los submarinos ni las aeronaves pueden encargarse de la misión de los buques de superficie.
- La Marina alemana para ejecutar su misión en el Flanco Norte de Europa ha emprendido, por un lado, la formación de grupos de combate, y de otra parte, el desarrollo de un sistema eficiente de defensa antimisil.
- La guerra de las Malvinas no ha traído como resultado que los buques de superficie deben suprimirse. Por lo contrario, se ha visto que los "grupos de combate" de las flotas, formados principalmente a base de buques de superficie, desempeñan el papel más importante, además, pueden actuar en todos los mares con autonomía para demostrar resoluciones políticas y ejecutar objetivos políticos.





ESCUELA DE GUERRA NAVAL

TACTICA

INFORME AL CONSEJO DEL ATLANTICO NORTE

(20 JUL. 82)







1. Constituye para mí un honor dirigirme a Uds. esta mañana para hablarles de las islas Malvinas. Desearía, en primer lugar, agradecer el continuo e ilimitado apoyo prestado por nuestros aliados de la OTAN. Este apoyo nos ha servido de gran ayuda, tanto en espíritu como en otros muchos aspectos de índole más práctica.
2. Todavía no hemos podido sacar conclusiones finales ni difíciles lecciones. Lo que voy a intentar es presentar breve y conjuntamente la actividad militar, económica y diplomática desde abril en adelante e identificar algunos de los principales aspectos que, en mi opinión, pueden ser interesantes para todos nosotros. No me voy a referir extensamente a los detalles militares de los que sus Representantes Militares serán informados el próximo jueves. Como he dicho es aún demasiado pronto para sacar conclusiones firmes de los acontecimientos sucedidos. Todavía estamos recogiendo datos y analizándolos. Esperamos poder participar a nuestros Aliados algunas conclusiones dentro de este año. Pero desearía comunicarles algunas primeras impresiones sobre temas que espero sean interesantes para Uds.
3. Nunca se insistirá demasiado en el hecho de que la Gran Bretaña no intervino en el conflicto del Atlántico Sur por propia voluntad. Argentina fue el país agresor y utilizó la fuerza ilegalmente contra los habitantes de las islas Malvinas y contra el modo de vida que ellos habían escogido libremente. Fue un asalto contra las bases en que se asienta el orden internacional. Por otra parte la invasión del día 2 de abril consistió en un acto de mala fe. Tuvo lugar en momentos en los cuales la Gran Bretaña y Argentina mantenían negociaciones de acuerdo con la petición de la ONU. El Presidente del Consejo de Seguridad apeló a la Argentina, de un modo formal, para que no invadiese las islas Malvinas, sin ningún éxito; Argentina invadió no solo las Malvinas sino también Georgia del sur. No retiró sus fuerzas en respuesta a las peticiones internacionales, y a pesar de una resolución mandataria de la ONU (502) continuó enviando fuerzas de ocupación.



4. El inherente derecho de la Gran Bretaña a su propia defensa en virtud del Artículo 51 de la Carta de la ONU hubiera justificado que el Gobierno británico adoptara entonces una política meramente militar para terminar con la crisis. En su lugar, y con la vista puesta en un arreglo pacífico, adoptamos la política de presionar sobre Argentina de tres modos específicos - presión económica, presión diplomática y presión militar.
- a. Para las presiones económicas tuvimos que buscar el apoyo de nuestros amigos y aliados. Estuvimos -y estamos- eternamente agradecidos a los miembros de la Comunidad Económica Europea, a Canadá, a Noruega y a otros países que impusieron medidas económicas con gran rapidez, así como a los Estados Unidos que lo hicieron algo más tarde. Existen pocas dudas de que estas medidas (que suponían también sacrificios para los países que las imponían) y la fortaleza de sentimientos que ellas representaban, jugaron un importante papel para demostrar a las autoridades argentinas y al mundo en general el total alcance del fallo de cálculo argentino.
- b. La presión diplomática se ejerció primeramente por medio de la Resolución 502 del Consejo de Seguridad que pedía la retirada inmediata de las fuerzas argentinas de las islas. La Resolución mostraba la preocupación mundial de que si la agresión era permitida, ello conduciría a una extendida inestabilidad. La presión fue reforzada por declaraciones de condena de muchos países y organizaciones, en especial la OTAN.
- c. La presión militar se ejerció mediante el rápido agrupamiento de nuestra Fuerza Operativa y su envío al Atlántico Sur. Fue una impresionante operación que suponía no solo la cooperación de los tres Ejércitos, sino también de la Marina mercante, de los astilleros civiles y de su mano de obra. Las unidades claves se hicieron a la mar en tres días. Eventualmente más de 100 buques, 200 aviones y 25.000 soldados y civiles fueron desplegados en el Atlántico Sur.
5. La derrota hacia el sur, con una distancia de 8.000 millas, nos daba la oportunidad de una continua actividad diplomática que tenía como meta la de lograr una solución negociada. El Gobierno aceptó complacido la idea de Haig acerca de un acuerdo transitorio y expresó su buena disposición a considerar sus propuestas finales, a pesar



- del hecho de que presentaban una gran dificultad real para la Bretaña. Respondimos también positivamente a las iniciativas de del Presidente del Perú, Belaunde, y a los extenuantes esfuerzos del Secretario General de la ONU, Perez de Cuellar, para negociar un acuerdo pacífico. Siete series de propuestas para una solución pacífica fueron estudiadas sucesivamente por el Gobierno británico. Cada vez se vio mas claro que la Argentina no deseaba negociar seriamente ni buscaba un acuerdo sino que estaba jugando con el tiempo con la esperanza de mantener en sus manos el fruto de la agresión y que su Gobierno no tenía autoridad para cumplir la resolución de la ONU. La Gran Bretaña aumentó gradualmente la presión militar.
6. A la llegada del primer submarino nuclear a la zona, el 12 de abril, la Gran Bretaña declaró una zona marítima de exclusión, que se convirtió, con sus 200 millas de radio alrededor de las islas Malvinas, en zona de exclusión total el 30 de abril cuando llegó a aquellas aguas la principal fuerza naval y se prohibió también a los aviones que entraran en dicha zona.
  7. Gran Bretaña dijo también claro ante Argentina que cualquier intento de aproximación por parte de sus buques, submarinos, o aviones que pudiera suponer una amenaza de interferencia a las operaciones de las fuerzas británicas, encontraría la respuesta adecuada. Los argentinos hicieron caso omiso de esta declaración y, como consecuencia, perdieron el submarino Santa Fe y el crucero General Belgrano. Durante la reconquista de Georgia del Sur el Santa Fe constituía una amenaza cercana para los buques británicos que estaban preparando el desembarco de las fuerzas; por ello fue atacado y desmantelado. El crucero argentino General Belgrano, escoltado por dos destructores, se encontraba cerca de la zona de Exclusión y constituía una amenaza para la Fuerza Operativa. La fuerza argentina estaba equipada con cañones de seis pulgadas, misiles antiaéreos Seacat, y misiles antibuque Exocet con un alcance de mas de 20 millas, junto con radares para dirigir ataques aéreos contra los buques británicos. Esto, deliberadamente, significaba una amenaza para la Fuerza Operativa que no podía ser ignorada y, en consecuencia, el crucero fue hundido. Aunque sentimos muchísimo la pérdida de vidas que esto significó, estamos seguros de que fueron estas acciones, junto con la destrucción de pequeñas lanchas, lo que hizo que los argentinos confinaran su flota en aguas continentales. Ya no volvió a tomar parte en el conflicto. Un resultado crucial de esto consistió



en que podíamos desembarcar nuestras fuerzas en las islas Malvinas sin interferencia de sus fuerzas navales lo que salvó muchas vidas de ambos bandos.

8. Durante este periodo los argentinos trataron de presentar al Gobierno británico como colonialista, inflexible y opuesto a la negociación. Esto no era cierto. En nuestros esfuerzos para alcanzar una solución pacífica estábamos totalmente dispuestos a negociar, siempre que se respetaran los principios esenciales. Para darles una idea de lo bien dispuestos que nos encontrábamos a acercarnos a la posición argentina, antes de la ruptura de las negociaciones en la ONU, les diré que la Gran Bretaña estaba dispuesta a:

- a. Retirar nuestra Fuerza Operativa de la zona de 150 millas de radio alrededor de las Malvinas, si las fuerzas argentinas se retiraban.
- b. Levantar las sanciones desde el momento del alto el fuego.
- c. Aceptar el nombramiento de un Administrador de la ONU quien mantendría consultas con los habitantes de las Malvinas.
- d. Aceptar el nombramiento de un Residente argentino dentro de los Consejos Legislativo y Ejecutivo locales y 3 observadores argentinos en las islas durante el periodo de transición.
- f. Negociar un acuerdo pacífico, con la condición de que no se prejuzgase su resultado.

La posición argentina definitiva, por otra parte, contenía los siguientes puntos:

- a. Las fuerzas deben ser retiradas a sus zonas y bases normales de operaciones; es decir, las fuerzas británicas tendrían que retirarse a varios miles de millas de distancia.
- b. Se permitirá el libre acceso a las islas de ciudadanos argentinos en el periodo transitorio; es decir, no habría defensa contra los intentos argentinos de poblar la isla y de este modo predeterminar su futuro.
- c. No podían aceptar que se llevaran adelante las negociaciones sin prejuzgar su futuro. Las autoridades argenti



nas continuaban insistiendo públicamente sobre de que Argentina debía obtener la soberanía sobre las islas.

10. No existía ninguna posibilidad de un acuerdo pacífico que se basara en estos puntos. Argentina continuó enviando refuerzos a las islas. Solo sabemos de un buque que logró atravesar la Zona de Exclusión Total pero los argentinos se las arreglaron para mantener una especie de puente aéreo hasta el momento en que las fuerzas británicas se encontraron cerca de Puerto Stanley. Durante todo este período de bloqueo nuestra Fuerza Operativa fue víctima de sucesivos ataques aéreos y, a consecuencia de ello, se perdió el HMS SHEFFIELD. Cada vez se veía más claro que solo el bloqueo no iba a producir ningún cambio en la situación y en aquel momento, la distancia y las condiciones meteorológicas no eran favorables a las fuerzas británicas.
11. De modo que, el 21 de mayo, establecimos una cabeza de puente en aguas de SAN CARLOS. Eramos conscientes de la vulnerabilidad de nuestras fuerzas en un desembarco anfibio y, por ello, la operación tuvo que ser preparada minuciosamente. Fue precedida por ataques de diversión por parte de fuerzas especiales que, de paso, llevaron a cabo una recogida valiosísima de datos de Inteligencia y otra serie de misiones, y por un bombardeo naval continuo en otras zonas de las islas. El desembarco principal de los comandos de la Marina en San Carlos no encontró oposición en tierra, pero fue seguido aquel día por siete horas de ataques aéreos intensos. Durante estas incursiones fueron derribados por los Sea Harrier 8 Mirages, 5 Skyhawk y un Pucara. Otro Mirage fue derribado por un Blowpipe y dos Skyhawk por misiles Sea Wolf. Fueron destruidos 18 aviones argentinos. La Marina fue la que tuvo que soportar todos los ataques aéreos. Aunque solo se hundió un buque, el HMS ARDENT, otros cuatro sufrieron daños de diversa importancia. El desembarco continuó - se cavaron trincheras defensivas en las zonas altas, se trasladó una gran cantidad de equipos y material a tierra y se instalaron misiles Rapier. A pesar de los valientes ataques aéreos argentinos, al caer la tarde la cabeza de puente estaba asegurada y la Marina había conseguido poner sus tropas de desembarco en tierra.
12. El Consejo de Seguridad solicitó del Secretario General de la ONU (en la Resolución 505) que renovase sus esfuerzos con el fin de encontrar una solución pacífica. Acogimos favorablemente la Resolu-



ción 505. Ofrecía una posibilidad de conseguir la retirada argentina por medios diplomáticos. Por desgracia, los esfuerzos del Secretario General fueron inútiles.

13. Desearía explicar porqué no podíamos aceptar la siguiente moción de la ONU sobre un alto el fuego inmediato e incondicional. A primera vista la segunda moción de la ONU propuesta por España y Panamá hacía depender dicho alto el fuego con la Resolución 502, que exigía la retirada de las tropas argentinas. Sin embargo, Argentina había incumplido flagrantemente la Resolución 502 del Consejo de Seguridad. No había nada, que nubiera animado a Argentina a cumplir con dicha resolución. De hecho, la resolución pedía un alto el fuego sin que hubiera ninguna esperanza de que Argentina retirase sus tropas. Gran Bretaña había enviado una gran Fuerza Operativa al Atlántico Sur; se habían situado nuestras fuerzas en tal posición que podían reconquistar las islas Malvinas y devolverles la libertad. El hecho consistía simplemente en que no podíamos cumplir con el alto el fuego, y este es el punto crucial, dejar a los argentinos exactamente donde querían estar. Se hubiera pensado que la agresión argentina merecía la pena.
14. La siguiente fase de la acción empezó el 26 de mayo. Los comandos y paracaidistas avanzaron desde la cabeza de puente para ocupar Goose Green y Darwin. La artillería ligera de 105 mm fue trasladada a van guardia por via aérea.
15. Puerto Darwin fue tomado el 28 de mayo sin gran dificultad. Lo de Goose Green resultó mas difícil. Nos tomó diez horas, con un intenso fuego. El Comandante en Jefe de las tropas resultó muerto cuando marchaba a la cabeza de sus hombres antes de ocupar la zona. Tuvimos en total 18 muertos y 34 heridos. Los argentinos tuvieron 45 muertos y se les cogieron 1.200 prisioneros así como una gran cantidad de equipo en el que estaba incluido mapalm.
16. Otros comandos de la Marina junto con batallones de paracaidistas llevaron a cabo una larguísima marcha por terreno muy accidentado para ocupar Douglas Settlement y Teal Inlet. Al mismo tiempo otro batallón de comandos fue situado por medio de helicópteros volando por debajo de nubes bajas sobre la zona de Mount Kent/Challenger, a 12 millas de Puerto Stanley.



17. La 5ª Brigada de Infantería había desembarcado en San Carlos el 3 de junio y para completar el desembarco, dos batallones más de infantería fueron trasladados a Fitzroy por barco. Al final de este movimiento de tropas se lavantaron las nubes. Como consecuencia de ello, los dos buques de desembarco fueron gravemente alcanzados en un ataque aéreo y tuvimos muchas bajas. De todos modos, las fuerzas ocupaban las posiciones previas para la acción final.
18. Incluso cuando nuestras tropas avanzaban hacia Stanley continuamos estudiando soluciones para conseguir la retirada argentina sin batalla final. Mantuvimos abierta, hasta el último momento, la posibilidad de un alto el fuego condicionado al comienzo de la retirada de las tropas argentinas, y a la terminación de dicha retirada en un plazo fijo. Cuando quedó bien claro que la Argentina no accedía a ningún tipo de acuerdo no tuvimos otra alternativa que ocupar las tierras altas al Oeste de Puerto Stanley, zona que permanecía intacta y que estaba ocupada por las mejores fuerzas argentinas. Tras varios combates de gran dureza los argentinos se derrumbaron. Se vio a gran número de enemigos rendirse y el General Menendez capituló poco después para evitar una mayor pérdida de vidas. El total de muertos fue de 255 británicos y 750 argentinos, muchos menos de los que nosotros habíamos previsto.
19. Tras la rendición, el 15 de junio, los problemas inmediatos en el frente diplomático se dividían en dos tipos.
  - a. Preparar la repatriación de los miles de prisioneros de guerra y, por supuesto, la vuelta del único prisionero británico, un piloto de la RAF, a la Gran Bretaña.
  - b. Conseguir un acuerdo con las nuevas autoridades argentinas sobre el cese total de hostilidades en el Atlántico Sur.

Además de los 1.200 prisioneros que ya habíamos repatriado, repatriamos inmediatamente otros 9.531 quedándonos con 538 pendientes de la clarificación de la posición argentina sobre el cese permanente de las hostilidades en el Atlántico Sur. Aún cuando no hemos recibido aún explícitamente la seguridad por parte de Argentina acerca del cese de las hostilidades en el Atlántico Sur, existen una serie de datos, incluidos los del movimiento y preparación de las Fuerzas Ar



gentinas, la vuelta del prisionero británico y diversas declaraciones que nos permiten pensar que Argentina acepta "de facto" el fin de las hostilidades. Todos los prisioneros argentinos restantes llegaron a Argentina el 14 de julio.

20. Todavía es demasiado pronto para sacar prontas conclusiones, que resultan difíciles. Pero, quizás, estén Uds. interesados en algunas conclusiones a las que ya hemos llegado. Mirando hacia atrás, queda claro que la Gran Bretaña no tenía una fuerza de disuasión lo suficientemente fuerte en las Malvinas y que (como muchos otros países) no esperaba un ataque argentino. Por otra parte, los argentinos cometieron un error de cálculo acerca de la voluntad británica y de la magnitud del apoyo que Gran Bretaña recibiría a continuación de las democracias occidentales.

21. Nunca se insistirá demasiado en la necesidad de un claro liderazgo político y militar y una claridad de dirección junto con una delegación de autoridad. En la práctica, esto significa que un pequeño grupo de Ministros bajo la presidencia de la Primera Ministro se reunirían casi a diario teniendo como asesor militar al Jefe del Estado Mayor de la Defensa. Las propuestas llegaban procedentes del Comandante en Jefe, que se encontraba en su Cuartel General en la Gran Bretaña, a través del Jefe del Estado Mayor de la Defensa. A continuación se le marcaban las directrices estratégicas. Una cosa que ha sorprendido a algunos comentaristas ha sido hasta que punto la dirección de las operaciones, día a día, en el Atlántico Sur se dejaba al arbitrio de los Mandos de la zona, Almirante Woodward y General Moore, y solo en el caso de decisiones importantes se preguntaba a Londres. Esto sucedía, en parte, por una consecuencia de las enormes distancias y de los inevitables problemas de comunicaciones, pero también debido a una política deliberada y consciente. Estaba muy claro que nosotros, los que estábamos en Londres, no podíamos tener un criterio acerca del mejor modo de dirigir las operaciones militares en la zona, ya que estas dependían crucialmente de apreciaciones sobre aspectos tales como el terreno, la enorme variación de las condiciones climatológicas, las fuerzas enemigas presentes, la disposición y la capacidad inmediata de combate de nuestras fuerzas etc. Pero, desde el principio al fin, las operaciones estuvieron bajo el adecuado y total control político con la vista puesta en los acontecimientos diplomáticos. Lo que se utilizó fue un sistema de directrices estratégicas amplias a los mandos combinados junto con



ciertas instrucciones muy específicas sobre lo que se podía y lo que no se podía hacer. Por ejemplo, las reglas para entablar combate de la Fuerza Operativa daban instrucciones muy claras sobre las circunstancias precisas en las cuales los buques y aviones argentinos, teniendo en cuenta sus características, podían ser atacados, en que zonas, cuando debía existir una advertencia previa etc. Los mandos locales tomaron sus decisiones en cada ocasión en particular ateniéndose a las instrucciones dadas.

22. Delegar autoridad de este modo no es fácil y requiere por parte de los dirigentes políticos gran sangre fría, tener mandos militares competentes, y una máquina administrativa que funcione con gran rapidez. Pero, al final, da resultado y yo me echo a temblar pensando en lo que supondría encontrarse en una situación en la cual los mandos locales hubieran tenido que ponerse en contacto con Londres en cada paso que fuesen a dar.
23. Voy a referirme ahora a la necesidad fundamental de tener una unidad de propósitos y un pueblo unido. Hablando en general, desde el principio ambas cosas se consiguieron y se mantuvieron a todo lo largo del conflicto. Quizás merezca la pena preguntarse por qué las cosas sucedieron así. La respuesta, en mi opinión, es doble. Existía un fuerte sentimiento de ultraje por la agresión argentina a un pequeño grupo de personas que gozaban de una vida pacífica. En segundo lugar también se tenía la convicción de que no podía permitirse que la agresión tuviera éxito. En resumen, las soluciones eran simples y directas en lugar de ser complejas.
24. "o es necesario decir lo importante que era, a lo largo de todo este periodo, prestar una gran atención a los medios de comunicación. Hemos sido acusados a la vez de dar demasiada información y de dar demasiada poca. El pueblo tiene el derecho a saber lo que pasa, pero este derecho debe estar condicionado por la necesidad de proteger la seguridad de nuestras fuerzas, el riesgo de nuestras operaciones y la necesidad de disminuir la preocupación de las familias de los soldados. Por encima de todo, existía una necesidad real de comprobar cuidadosamente y estar bien seguros que lo que decíamos era verdad. Había decisiones muy difíciles de tomar y una vez tomadas pueden no ser acertadas. No tengo la menor duda de que este tema es uno al que hay que prestar gran atención en el futuro.



25. Nunca se insistirá demasiado sobre la importancia de la adquisición de datos de Inteligencia no sobre la necesidad de dedicar un gran esfuerzo no a la mera adquisición, sino, lo que es por lo menos tan importante, a su interpretación. El problema central sigue siendo tan difícil como siempre, en el sentido de que por muchos datos de que se disponga, existe un problema real que consiste en interpretar y comprender las intenciones del enemigo. Producir la confusión en el contrario plantea unos problemas que parecen aumentar con el tiempo en lugar de disminuir.
26. Esto le lleva a uno de un modo natural a la consideración de la importancia de las comunicaciones. Esto no solo en un sentido estratégico sino en el propio campo de batalla. Estas comunicaciones tienen que ser seguras con rutas y métodos alternativo.
27. Nadie puede subestimar la necesidad de una buena logística. Utilizando la palabra en el más amplio sentido. Las Fuerzas Armadas modernas requieren un apoyo eficaz en cantidad y calidad. Para mantener unos 50 buques que participaron en la operación, además de dos brigadas, se necesitan mas de 70 buques de apoyo. Estos transportaron mas de 100.000 toneladas de suministros al Atlántico Sur. Se consumieron 400.000 metros cúbicos de combustible. Las reservas de almacenamiento y la disponibilidad de munición, misiles, piezas de repeto y equipos de todas clases constituyen el núcleo de las operaciones militares. Además es necesario para todos los equipos su mantenimiento de modo que puedan soportar las más adversas condiciones durante un cierto periodo de tiempo.
28. Hay otros aspectos de los que necesitamos sacar las correspondientes conclusiones. Por ejemplo, y tratando un tema totalmente diferente, es una dura realidad el que no solo se consumen enormes cantidades de munición sino su impacto es mucho más grave. Una consecuencia de ello es la necesidad de prestar una gran atención a los servicios médicos y hospitalarios así como a los uniformes protectores de todo tipo.
29. Otro aspecto que necesita un serio estudio es la utilización de los recursos del campo civil. Es interesante el hecho de que hemos considerado hace ya mucho tiempo que este es un campo de particular interés pero, en la práctica, se necesitó con más urgencia de lo que pensábamos y obtuvimos mejores resultados que los que esperábamos.





La Marina mercante británica nos proporcionó mas de 50 buques con sus correspondientes dotaciones. Diecinueve de ellos fueron equipados con plataformas para helicópteros y en casi todos se montó un sistema de revituallamiento de combustible en alta mar. En los buques de transporte de contenedores se montaron dispositivos para los aviones Harrier de despegue vertical, permitiendo una mejor utilización de este avion, de características tan flexibles, capaz también de operar desde instalaciones en tierra, cuyos dispositivos llevaba la Fuerza Operativa. Es conveniente prestar atención a las cuestiones legales que se presentan en estos casos aunque, en la mayor parte de ellos, pudimos trabajar de mutuo acuerdo con los operadores civiles.

30. El análisis del equipo no ha terminado aún y necesita un trato muy cuidadoso, pero podemos dar algunos detalles:

- a. Un misil relativamente barato supone una gran ventaja en una acción ofensiva contra una plataforma de gran costo (buque o avión) y es también eficaz en la defensa. El Exocet argentino demostro ser un misil antibuque eficaz. Pero el Exocet lanzado desde el aire no tiene todos los puntos a su favor. Sabemos que 3 o quizás 5, fueron desviados con éxito por los buques a los cuales eran dirigidos y, probablemente, llegamos a un 75% de éxito contra los ataques de los AM 39. La utilización de interferencias, por ejemplo, parece que tuvo éxito en varias ocasiones. La mejor estimación que podemos hacer por el momento es que el sistema británico de misiles a bordo de buques (Sea Dart, Sea Wolf y Sea Cat) derribaron, entre todos, 19 aviones argentinos. Unas pocas unidades de fuego Rapier con base en tierra derribaron por lo menos otros 9. Los nuevos misiles Sea Skua de vuelo rasante lanzados desde helicópteros con base en buques, por primera vez en servicio, se adjudicaron 6 blancos.
- b. Los aviones de despegue y toma de cubierta vertical tuvieron un enorme éxito. Operando desde portaviones 28 Harrier (versión naval) llevaron a cabo 2.000 salidas operativas con una disponibilidad del 90%. Derribaron 27 aviones argentinos en combates aéreos,



entre ellos 19 modernos cazas Mirage, sin una sola pérdida (aunque dos de ellos se incendiaron una vez cumplida su misión). En tierra, 8 Harrier (versión de ataque - tierra) fueron rápidamente situados en una base de vanguardia -en un terreno de hierba- y llevaron a cabo ataques a la artillería argentina y a posiciones terrestres (por ejemplo, emplazamientos de artillería).

c. Los helicópteros mostraron su gran capacidad tanto en tierra como en la mar. Unos 90 helicópteros Sea King y Wessex fueron desplegados. Transportaron grandes cantidades de suministros y de hombres; en tierra sirvieron, con una capacidad demostrada por primera vez, de apoyo al mando para el rápido redespliegue de las tropas. Su movilidad contribuyó a que las fuerzas terrestres pudieran llevar el conflicto a un rápido final.

d. La imaginativa y rápida explotación, con gran éxito, de las técnicas de revituallamiento de combustible aire-aire por parte de los aviones de patrulla marítima Nimrod y de los aviones de transporte C-10 contribuyeron de manera especial a las operaciones navales y de suministro. El revituallamiento en vuelo aumentó la flexibilidad de los Harrier, algunos de los cuales volaron desde la Gran Bretaña hasta donde se encontraba la fuerza Operativa por medio del revituallamiento en aire en vuelos de 8.000 millas.

31. Las conclusiones sobre la defensa aeronaval necesitarán un amplio y profundo análisis. Perdidos 4 buques de guerra y otros cuatro buques de apoyo; otros 8 fueron dañados.
32. Esta diapositiva da nuestra última estimación de las pérdidas en aviones de la Argentina. Las cifras no son definitivas y necesitan ser confirmadas pero son próximas a la realidad.
33. Nuestra estimación inicial sobre la aviación enemiga se explica en esta diapositiva. Tampoco en este caso están claras las cifras, porque aún no conocemos cuantas oportunidades de combate pueden atribuirse a cada sistema.



34. Es cierto que podría seguir hablando mucho mas largo y tendido identificando los aspectos de los cuales puede sacarse y aprenderse una lección. Pero desearía terminar mencionando dos asuntos que son de capital importancia.
35. El primero es obvio. Se trata del adiestramiento, aptitud, moral y todos los demás elementos que juntos constituyen a forjar la profesionalidad de las Fuerzas Armadas. Nunca se insistirá demasiado en la importancia de los citados elementos y debe añadirse que el asegurar el que los niveles de actividad se mantengan suficientemente altos por medio del adiestramiento normal y de ejercicios de modo que se tenga la certeza de que todas las inversiones en equipo e infraestructura dan lugar a un eficaz producto final.
36. En segundo lugar, la lección quizás mas importante de la crisis se refiere a la disuasión. Esta solo funciona si se cumplen dos condiciones: poseer unas Fuerzas Armadas propia y adecuadamente equipadas y en pie de guerra junto con la capacidad de convencer a un adversario potencial de que cualquier agresión será contrarrestada rápida y firmemente. Yo sugeriría que la lección para la OTAN y sus Gobiernos miembros, frente a la amenaza soviética es evidente por sí misma.
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2000





ESCUELA DE GUERRA NAVAL

TÁCTICA

P E A C E

(Editorial de Navy International)







# PEACE?

Priority — Immediate



Headquarters Land Forces Falkland Islands, Port Stanley. In Port Stanley at 9 o'clock pm Falkland Islands time tonight 14 June 1982, Major-General Menendez surrendered to me all the Argentine Armed Forces in East and West Falkland, together with their impediments.

Arrangments are in hand to assemble the men for return to Argentina, to gather in their arms and equipment, and to make safe their munitions.

The Falkland Islands are once more under the government desired by their inhabitants.  
God Save the Queen.

J. J. Moore.

With the receipt of this message at the British Ministry of Defence at 0312 on June 15, the British were finally informed that peace had come to the Falklands. A strange peace from a real war, that was not a war, for war between Britain and Argentina had never been formally declared. A war in which the most modern military technology available to man had been fully used and tested in battle. A war in which a large majority of the participants had never seen action before. A war between two nations fully armed and on a war footing and, moreover, a war in which a major power found itself fighting what might nominally be termed a Third World Power which, when the 9,000 or so Argentines on the Falklands finally laid down their arms, contrary to general impressions in Britain, was found to be exceedingly well equipped and supplied, both with food and munitions.

In Britain there are many who now consider that, barring the post operation enquiries as to how it all happened and what went wrong where, the Falklands episode is now over and done with, and we can all get back to normal and perhaps concentrate on the World Cup Football and cricket! But let not the British too soon delude themselves. The battle might be won, but the war is not over!! Argentina will *never* give up her claim to the Falklands and even as the die was cast, and the defeat of the Argentine Army in the Falklands seemed inevitable, considerable quantities of military supplies were being clandestinely ferried into Argentina.

Obviously the military in Argentina will be carrying out a very careful post mortem into their operations to see where they must make changes — to strategy, tactics and equipment. There are lessons to be learnt and successes they will undoubtedly want to build on. Their use of air power, although costly in men and machines, nevertheless achieved considerable successes. Their object now will be to ensure that in any future conflict such losses are minimised. The much vaunted hawkish Argentine Navy has skulked inside its territorial limits following the loss of the *Belgrano*, afraid to venture out for fear of further heavy losses from the barrier of British nuclear submarines. ASW is obviously an area to which the Argentine Navy will carefully address itself in the future. Finally the Argentine Army will want to examine its own tactics. How was it that the British were able to land 5,000 men virtually unopposed in San Carlos Bay, why was the high ground around Port Stanley given up so easily, especially when

Argentine Forces outnumbered the British and were in the main, well dug in with plenty of weapons and ammunition?

On the British side equally important questions of a different nature must be posed, and answered *correctly* and soon. Both the Government and the Ministry of Defence must pull no punches in answering these questions.

Irrespective of what the Government might say there *are* deficiencies in the British military machine and they *have got* to be put right, not only for the sake of those who have given their lives in the Falklands, but also to ensure that the now most battle experienced military machine in the world is able to carry out its commitments not only to NATO but also its other Defence obligations and that Britain should not in the future find itself in a Falkland type situation lacking certain rudimentary prerequisites for dealing with the problem.

For a start there must be no more cuts to the Navy — the cuts already laid down must be rescinded — the Thatcher Government, and the nation, must be prepared to find the extra money to ensure that the Navy *has* sufficient ships, of the right type, to *meet* its commitments. To fight for right principles *may* be morally correct, but to fight for them knowing there *are* limitations in ones capability is morally wrong. Two Invincibles *are not* sufficient to provide air cover, ships *must* be provided with close in defence against anti-ship surface skimming missiles (a gun system such as SEAGUARD is equally as necessary as SEAWOLF). Some form of airborne early warning is essential. Long range surveillance radar *must* be improved. Firefighting techniques and equipment *must* be updated, and what folly to contemplate closing HMS *Phoenix* the RNs school for damage control!

Then there is the question of the use of aluminium and plastic materials giving off dense acrid smoke and toxic fumes. Although only the Type 21 frigates embodied aluminium extensively, ship designers now must carefully consider the value of employing these materials to any high degree, even in ships destined for export to Third World Nations.

Yes there are many many lessons to be learned, let us only hope that the right questions are posed, the right answers made and that certainly in Britain, there is a readiness to vote the necessary money to put these matters right.







ESCUELA DE GUERRA NAVAL

TACTICA



LA MARINA MERCANTE INGLESA EN EL CONFLICTO DE LAS MALVINAS

(Resumen de Revistas - Mayo y Junio 1982)









El conflicto de las Malvinas ha puesto de manifiesto una gran deficiencia de la Flota en cuanto a buques auxiliares y para suplirla se ha visto necesitada de requisar o contratar a gran número de buques mercantes de todo tipo, principalmente de pasajeros, portacontenedores, petroleros, roll ou-roll off y remolcadores.

El mayor problema presentado a la Fuerza Naval que debía operar en aguas del Atlántico Sur fué la falta de bases utilizables en el área. Este es un problema que se debe afrontar, normalmente con los buques de Aprovechamiento Logístico de la Flota, con capacidad de efectuar maniobras de aprovisionamiento en la mar. En donde los buques mercantes tienen una aplicación valiosa es en el aprovisionamiento y reaprovisionamiento de los buques de Apoyo de la Flota.

Los petroleros fueron los que obviamente se solicitaron desde el momento inicial de la crisis, ya que las operaciones de la Flota a tan grandes distancias ocasionan una gran demanda de combustible; los primeros requisados fueron tres de tipo pequeño de cargo múltiple (de más de 25.000 tms) "BRITHIS ELK"; "BRITHIS TAMAR" y "BRITHIS TAY". Parece que para el abastecimiento de la Base de Ascensión y Sta. Elena desde Gran Bretaña, se utilizaron petroleros mayores de bandera extranjera en régimen de alquiler.

En cuanto al "CAMBERRA" (44.807 Tns.), la idea inicial era que no entraría en aguas hostiles (sin excluir la visita a "Ascensión" o "Sta. Elena") y que los 2.000 infantes de marina y paracaidistas serían transbordados por helicópteros y lanchas ligeras a los buques de la Flota, su exacta localización estaría condicionada únicamente a las condiciones meteorológicas.

El "Camberra" fué elegido como transporte de tropas por una serie de factores entre los cuales no es el de menor importancia el que su situación geográfica en el momento de la requisa, era proxima a Sonthampton después de un crucero de cuatro meses alrededor del mundo y, por otra parte, que el Queen Elizabeth 2 se encontraba lejos.

Otro factor de indudable valor fué su elevada velocidad que le permitiría alcanzar el Atlántico Sur a 27½ nudos sin problemas. También debió influir la experiencia de su capitán que no extraño a las operaciones navales, había servido en varios buques de la RN y estudiado en el Colegio de Dartmouth y tomado parte en varios proyectos hidrográficos.

Además, la conversión del "Camberra" en transporte de tropas requería únicamente modificaciones ligeras para llevar solamente 2.000 hombres. Oficial



mente no se dieron razones para tan mala suerte, aunque la lógica y los movimientos de otros buques mercantes podían dar alguna indicación: El "Camberra" estaba previsto para su servicio como transporte de tropas en viaje trasatlántico de 3.500 millas entre las costas de los USA y el continente Europeo, en un viaje de 5½ días. Su capacidad de transporte de tropas podría ser, con algunas modificaciones y de algunos días de trabajo, de unos 2.000 a 8.000 hombres. Su capacidad de pasaje era inicialmente de 2.000 en viaje de línea pero se redujo a 1.737 para los viajes de "crucero". Las modificaciones para transporte prolongado de 2.000 hombres serían necesariamente muy pequeñas y podría encontrarse en ruta al Atlántico Sur en 48 horas, en estas condiciones no habría reducción de eficacia de la tropa aunque la navegación fuera muy prolongada.

Al requerir un mayor número de hombres se llama al servicio al "Queen Elizabeth 2" cuya llegada a Southampton estaba prevista para el lunes 12 de Abril y a varios grandes "ferries" que operaban en el Mar del Norte; éstos fueron el "Norland" de 12.988 Tns. con capacidad para 1.400 pasajeros y una considerable capacidad de carga roll on - roll off, el "Elk" y otros. Además se requisó el Uganda previsto como buque de transporte rápido entre el Reino Unido y Gibraltar o Ascensión, idóneo para estas operaciones por sus grandes dormitorios corridos y su despejada cubierta sin obstrucciones que puede ser usada para transbordo por helicópteros.

Para misiones de refuerzo se requisó también un tercer gran crucero, el "Sea Princess" (que llegó a Southampton a 0700 horas del 23 de Abril) y algunos "ferries" más, listos para entrar en servicio.

Las modificaciones del "Camberra" fueron mínimas pero se efectuaron con gran rapidez y eficacia. El "Camberra" llegó a Southampton el lunes, remontaba aún la canal cuando ya estaban trabajando en su nueva cubierta de helicópteros y quedó listo a 0700 horas del miércoles. El acero para las plataformas de H/C había llegado de Escocia en la mañana del domingo 4 de Abril, e introducido en el taller de chapa nº 1. Cuando se terminaron las nuevas cubiertas resultaron demasiado grandes para las puertas de la nave y hubo que tirar la pared, luego fueron puestas sobre gabarras y llevadas a esperar la llegada del buque en la canal.

La cubierta de helicópteros a popa del puente, sobre la piscina, fué terminada antes de salir a la mar, pero la segunda ofreció algunas dificultades y soldados, caldereros y chapistas voluntarios salieron a la mar para terminarla con la intención de desembarcar en Ascensión. Inicialmente se pensó en ponerla delante del puente pero se decidió la solución de ponerlo a proa de la chimenea en la misma cubierta que la otra plataforma.



Hubo que quitar una superestructura, pero se adoptó este lugar ya que la proa del puente quedaba poco margen para errores en operaciones rápidas de los H/Cs.



Para permitir las operaciones de los H/C se quitaron las antenas de hilo y fueron sustituidas por otras que incluían además bandas de frecuencia de uso militar.

Como buque hospital el "Camberra" no resultaba idóneo pese a su estabilidad y a disponer de un hospital propio que fué suplementado. Por otra parte, el "Uganda" había sido concebido para operar en esta misión, sus dormitorios cumplían exactamente las condiciones para ello permitiendo al equipo médico una mejor vigilancia de enfermos y heridos que en los camarotes privados del "Camberra".

Una de las más sorprendentes cualidades del "Camberra" resultó ser sus grandes posibilidades para operaciones prolongadas sin necesidad de reabastecimiento y sus facilidades para el reaprovisionamiento de agua.

La Unión Soviética ha mostrado un gran interés por el "Camberra", envió un AGI para seguirle y no le abandonó, permaneciendo constantemente a 2 millas por su popa, observando las operaciones con helicópteros y el aprovisionamiento de combustible.

Otro de los buques que se reunió con la Flota fué el "Elk" de 5.463 Tns. que pudo jugar un papel muy activo en el desembarco. Unicamente necesitó alguna preparación de camas y cois para su uso por unidades para el asalto inicial. Puede transportar gran cantidad de material pesado y desembarcarlo en profundidades de agua aceptables o en rampas pontones. El "Elk" es un buque de aguas poco profundas. Tiene otros dos gemelos de la Cía. Townsend-Thorensen en la línea Felixstone-Zeebrugge. Otros de la Cía. North Sea Ferries: "Norsea" y sus gemelos "Poma" y "Tipperary" que difiriendo en algunos aspectos son capaces también de embarcar gran cantidad de fuerzas con importante autonomía y velocidad de 18 nudos. Podrían haber sido requisados otros muchos Ro-Ro pero fueron desechados por haber sido diseñados para cortos viajes por el Canal y tener, por tanto una autonomía limitada.

En cuanto a remolcadores y buques de salvamento hay que destacar el "Salvageman" de 20.000 CV y otros más pequeños como el "Irishman" de 9.000 CV. No se conocen detalles de todos los buques requisados o controlados pero se estima que al menos dos buques más fueron requisados como el "Atlantic Conveyor" (18.000 Tns.) por ejemplo. Para reemplazar a los petroleros de la Flota en "aguas de casa" se requisaron otros 7 petroleros.



En un conflicto como el de las Malvinas, la marina mercante puede suplir a la falta de buques auxiliares en la Flota pero el problema es ¿cuánto tiempo puede seguir contratando o requisando?, ¿podría prescindir la Marina Mercante de estos buques en otro tipo de conflicto?.

En los últimos años la UK Fleet no ha tenido una política correcta sobre buques mercantes, cada año aparece menos tonelaje en el registro de buques... ¿Cuál es el caso de España?.

EL "QUEEN" ES LLAMADO AL SERVICIO.

Hacia escasamente un día que el "Queen Elisabeth 2", buque insignia de la "Cunard Line" y último de los grandes buques de línea de pasajeros del Atlántico Norte, había salido de Southampton en viaje a Filadelfia, cuando sus dueños recibieron un mensaje urgente del Gobierno Británico. El transatlántico de 67.500 Tns. era requerido inmediatamente para servicio militar. Su posible misión: transportar al Atlántico Sur, unos 3.000 ó 4.000 hombres de las 5ª Brigada de Infantería y unidades de apoyo. Fuerza que probablemente estaría destinado a constituir la guarnición de las Malvinas en el caso de ser recuperadas. Como sus antecesores "Queen Mary" y "Queen Elizabeth" que sirvieron como transportes de tropas en la II GM., el "QE2" venía a ser un símbolo de como los ingleses resuelven una crisis nacional.

El portavoz del Ministerio de Defensa había explicado que el tamaño del barco, su velocidad y sus posibilidades le hacían "inestimable e imprescindible para transportar una importante cantidad de Fuerzas, por lo cual debería ser mantenido listo para estar operativo en cuanto se solicitara". Había sido cancelado un pasaje de 1.700 viajeros para un crucero de 13 días por el Mediterráneo, de acuerdo con la advertencia del Ministerio. El "QE2" podía hacer el viaje de 8.000 millas a las Malvinas en unos diez días a una velocidad de 28,5 nudos, velocidad que le proporcionaba buena protección contra posibles ataques de submarinos convencionales, de velocidades máximas de 19 nudos en superficie y 16 en inversión. El "QE2" era sin embargo vulnerable a misiles aire-superficie como los que la semana anterior habían hundido al destructor "Sheffield", pero al menos podía librarse de la amenaza de los submarinos argentinos.

El gobierno británico había llamado anteriormente a otros dos transatlánticos de la Compañía "Peninsulas and Oriental Steam Navigation CO" (comunmente conocida por P&O), el "Uganda" de 16.907 Tns. y el "Cambera" de 45.000 Tns. y preparados para su misión militar con asombrosa rapidez. El "Uganda" un "crucero universidad" que normalmente llevaba algo más de 900 estudiantes en viajes por el Báltico y Mediterráneo, solamente necesitó pequeñas modificaciones para ser transformado en un buque-hospital de 1000 camas. En un muelle de GIBRALTAR 300 obreros prepararon el buque instalando plata-



formas de helicópteros prefabricadas. Un salón-funador y una galería convertidos en quirófano (operating theaters); un salón de baile en una sala de 100 camas. En menos de una semana, el "Uganda" navegaba hacia el Atlántico Sur, las notas del "Rule Britannia" sonaban por su sistema de alta voces. Igualmente, el "Camberra" fué alistado con una plataforma de helicópteros sobre su piscina. Los comandos de infantería de marina fueron instruidos para no pisotear las alfombras hasta que fueran protegidas, en tres días el "Camberra" navegaba hacia la zona de combate con 2.000 hombres a bordo.

La adaptación del "QE2", un hotel flotante de lujo con siete bares, cuatro piscinas y un casino, fué un asunto más complicado. Fué sacado gran parte del mobiliario y decoración de los alojamientos de pasajeros. La "Cunard" decidió almacenar en tierra la buena porcelana, las cristalerías, jarrones las 17.000 botellas de champagne y media tonelada de caviar. La tripulación trabajó duro para desembarcarlo en Southampton antes de la salida, junto con los aparatos de los gimnasios de a bordo y muchos otros equipos. Se quitaron los cuadros pero los espejos de las paredes y las mesas de madera nobles quedaron en su sitio.

Se instaló una plataforma de helicópteros para suplementar la que ya tenía el barco. Se emplearon unos 5.000 piezas de lona para cubrir paredes y alfombras. Se embarcaron gran cantidad de raciones de cosas tales como chocolate y helados y unas 100.000 latas de cerveza. Trabajando día y noche, el Transatlántico estuvo listo para navegar en tres días. Alrededor de un tercio de la tripulación normal de más de 700 hombres firmaba para un aventurado viaje hacia el sur, con un sobresueldo del 150% cuando cruzaran el paralelo de 70 grados sur. El Capitán del barco era el Capitán Alexander Hutchison.

La última semana el gobierno había requisado unos 50 buques privados con el procedimiento legal conocido como "Queen's Order in Council". Estos buques incluían toda clase de cargueros, remolcadores y cuatro pesqueros de arrastre que la marina planeaba utilizarlos como dragaminas en las proximidades de las Malvinas. Los pesqueros estaban mejor equipados para las frías aguas del Atlántico Sur que los dragaminas de la marina, además, los pesqueros estaban diseñados para largos viajes y equipados con sonares de pesca, capaces también de detectar buques enemigos.

Según fuentes no oficiales, el coste que la guerra ha supuesto hasta el momento más de 1 billón de dolares, no habiéndose habilitado un fondo de 4,5 billones. Solamente el "QE2" está costando al gobierno 225.000 dolares por día, el "Uganda" y el "Camberra" alrededor de 175.000 dolares cada uno. La



"Cunard" perdió 3,5 millones de dólares al cancelar el crucero por el Mediterráneo, y lo mismo que otros armadores espera verse compensada. La Primera Ministra Margaret Thatcher dijo "Esto ha sido muy bueno para la marina mercante, no ha sido tan bueno en muchos años".

El conjunto de las operaciones marítimas fueron llevadas a cabo con notable velocidad y eficacia pero se afirma que fué una suerte. Fué consecuencia de un plan de emergencia, formulado en 1978 por la OTAN para el alistamiento rápido de 300 buques específicos de las marinas mercantes de las naciones miembro para épocas de emergencia. La suerte de Inglaterra fué mayor aún ya que una parte importante de la "Royal Navy" se encontraba participando en unos ejercicios de la OTAN en GIBRALTAR cuando sucedió la invasión de las Malvinas. Esto permitió que un número de buques, incluido un submarino nuclear se encontraran listos y en la mar, algunos de estos buques se encontraban ya a unas 1.000 millas de las Islas Británicas en dirección al Atlántico Sur.

#### PORTACONTENEDORES.

Los dos buques portacontenedores; "Atlantic Conveyor" y "Atlantic Conway" pertenecientes a la Cunard, requisados por el Gobierno británico, fueron transportados en muy pocos días, no solo en buques de transporte militar, sino en buques hábiles para operaciones con helicópteros y aviones Harrier. Ha bastado soldar una serie de chapas sobre los soportes de deslizamiento de los contenedores.

En esta línea de transformar buques mercantes para misiones de guerra, la marina norteamericana tiene previsto unos planes ya conocidos, según los cuales podrían transportar, rápida y económicamente, buques portacontenedores en portaaviones. Las necesidades esenciales para ello (Talleres, paños, reservas, equipos de control... etc.) estarán repartidos en 60 contenedores alineados en cubierta. Sobre los contenedores se montará una pista desmontable para helicópteros y aviones de despegue vertical.

Solo son necesarios 100 mts. de eslora libre y existen más de 200 buques con estas características en los países de la OTAN.



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CARACTERISTICAS DE BUQUES INGLESES PARTICIPANTES

EN EL CONFLICTO







PETROLEROS.

"TIDESPRING" ----- 18.100 Tns.  
"BUE ROVER" ----- 6.600 Tns. de combustible, pañoles secos y tanques de agua.

"GREY ROVER"

"PEARLEAF"

"PLUMLEAF"

"OLMEDA" ----- con Sea King.

"APPLELEAR"

APROVISIONAMIENTO.

"FORT AUSTIN" ----- con LYNX (Insignia del Grupo de Aprovisionamiento  
"RESOURCE" ----- con Sea King. Captain SC. Dumlop)  
"STROMNESS"

ROMPEHIELOS.

"ENDURANCE"

BUQUES MERCANTES REQUISADOS O ALQUILADOS QUE ACTUARON EN EL ATLANTICO SUR.

Buques de Linea.

"CAMBERRA" Cia P&O. Transporte de Tropas ----- 45.000 Tns.  
"UGANDA" Cia P&O. Hospital ----- 14.000 Tns.  
"QUEEN ELIZABETH 2" Transporte de tropas.

Buques de Carga.

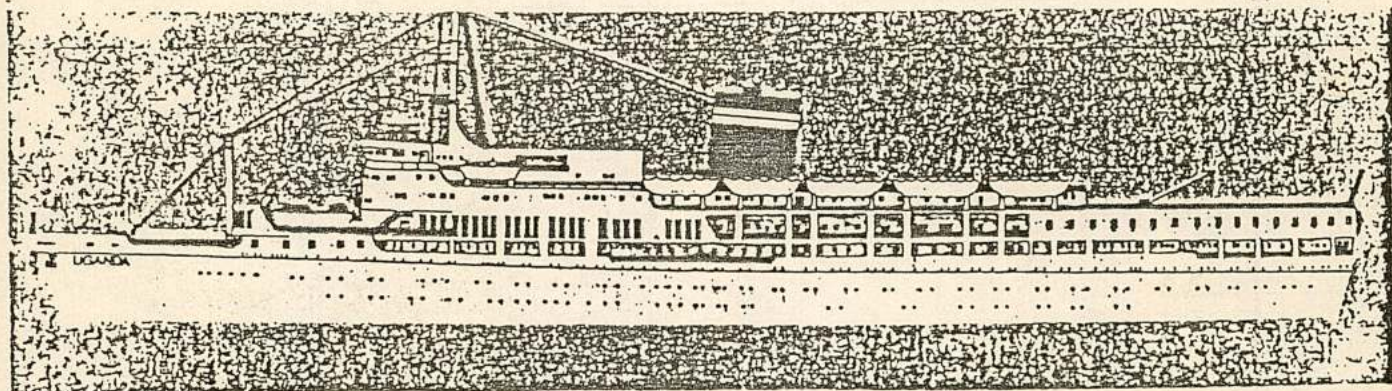
"ELK" Cia P&O.	RO-RO.	-----	8.500 Tns.
"ATLANTIC CONVEYOR" Cia P&O.	RO-RO.	-----	18.000 Tns.
"NORLAND"	RO-RO.	-----	12.988 Tns.
"EUROPIC"		-----	4.190 Tns.
"FINNANGER"		-----	21.267 Tns.





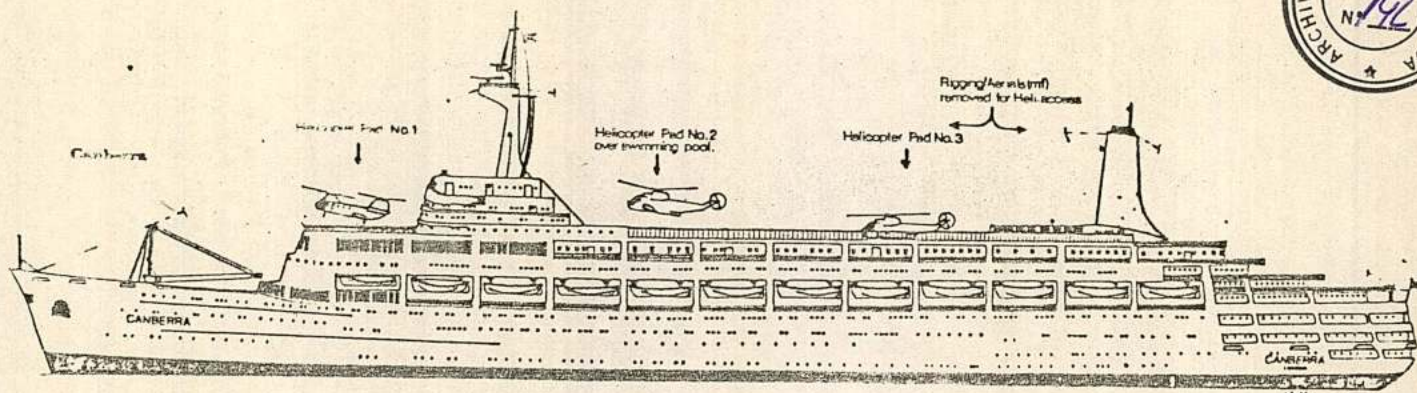
Pinar, Tay, Esk (15.642 Tns.)  
 Est, Dart (16.653 Tns.)  
 Esso Fawley (11.064 Tns.)  
 Wye, Avon (15,600 Tns.)  
 G.A. Walker (18.744 Tns.)  
 Ivy, Fern (13.252 Tns.)  
 Fort Toronto (19.982 Tns.)  
 Luminette (14.952 Tns.)  
 Cortina (6.499 Tns.)  
 Irioman (3.623 Tns.)

Salvageman.  
 Irish man.  
 Yorkshireman.  
Pesqueros de arrastre(¿Dragaminas?).  
 Northella .....1.238 Tns.  
 Cordella .....1.238 Tns.  
 Fornella .....1.207 Tns.  
 Junella .....1.615 Tns.  
 Buque auxiliar de explotaciones petrolífera  
 Stena Seaspread ..9.000 Tns. (usado como bu  
 que de reparaciones).

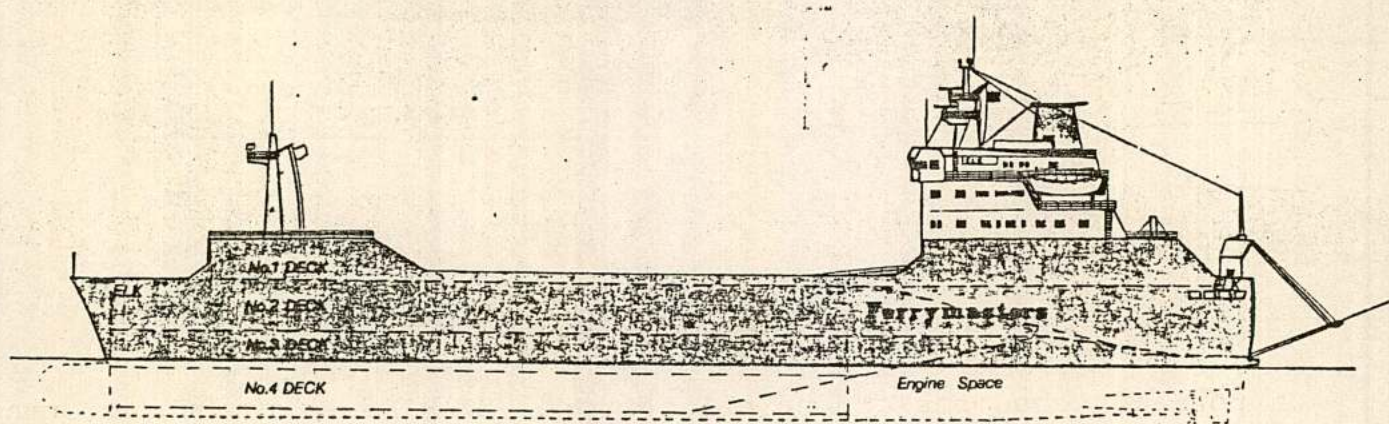


El "UGANDA". Fué modificado en el dique de Gibraltar en dos días, adaptán-  
 dolo como buque hospital para 1.000 camas, con 200 camas extras y 100 ofi-  
 ciales y enfermeras. Una plataforma de helicóptero y pintadas señales de  
 Cruz Roja en popa y costados.



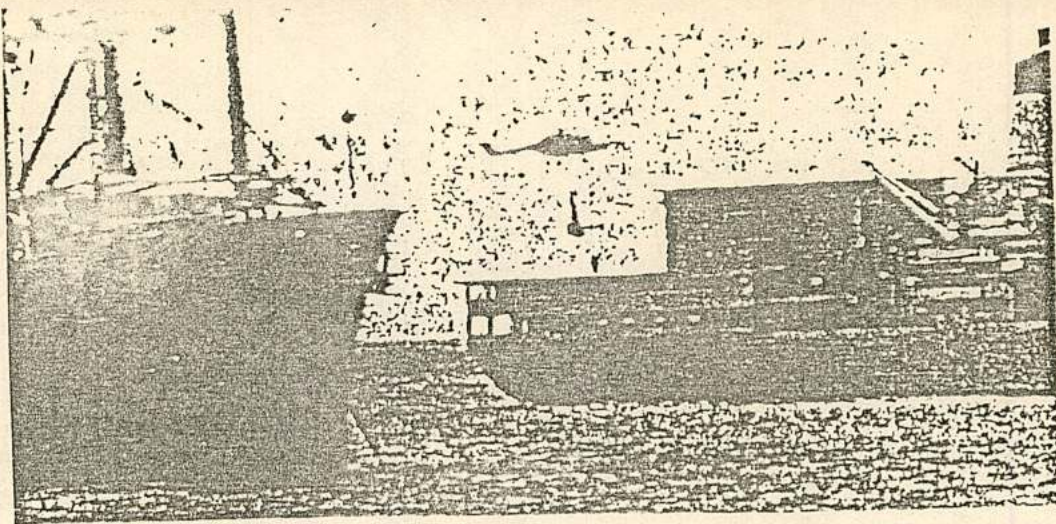


El "CAMBERRA" modificado para las operaciones de las Malvinas.

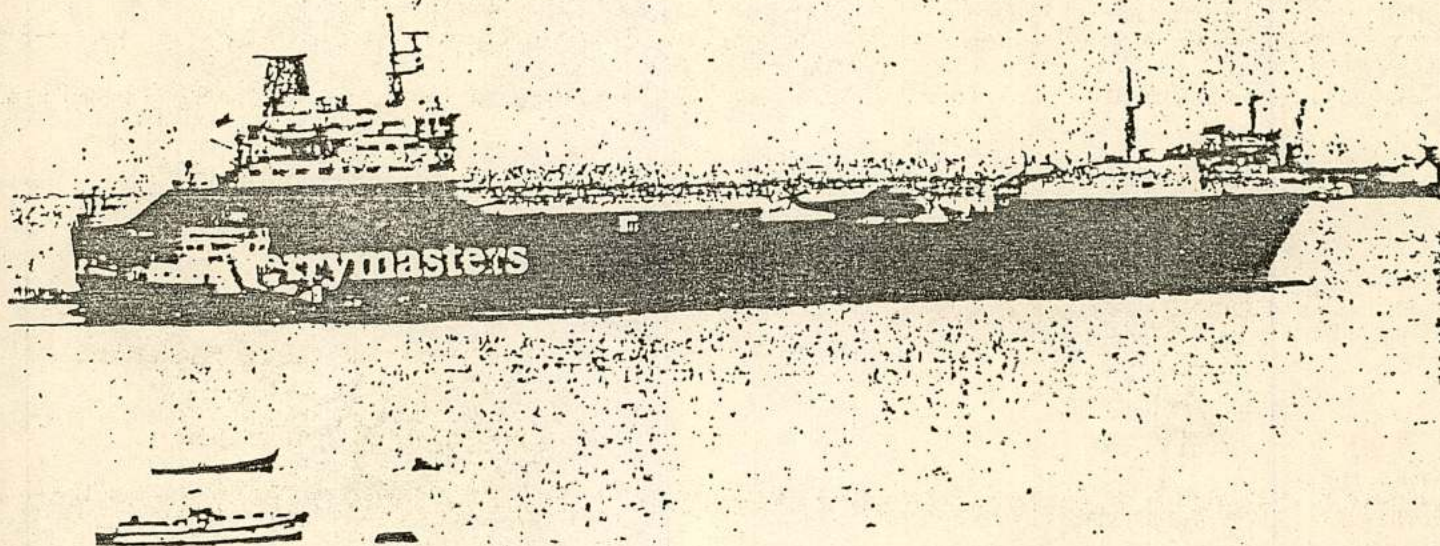


El RO-RO ferry "ELK" requisado para llevar carros ligeros y equipo movil para las Malvinas.

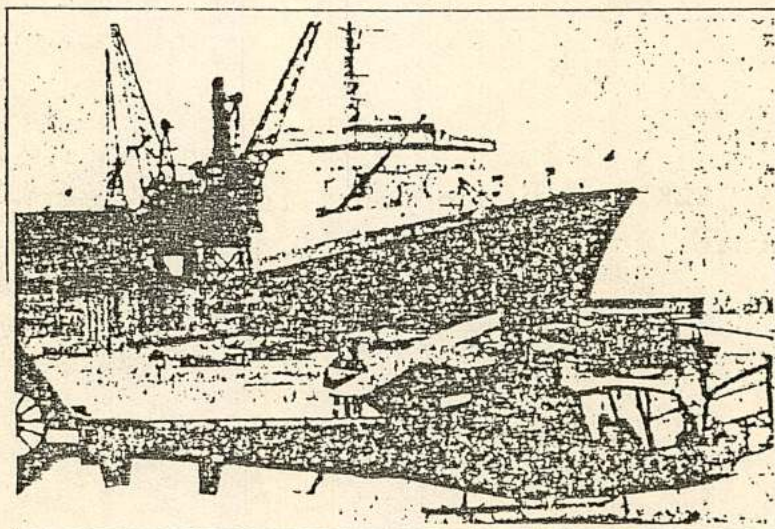




Gran actividad de buques mercantes en Ascensión: un helicóptero LYNX transborda material desde un carguero a un portacontenedores.



Un portacontenedores con un helicóptero SEA KING sobre la cubierta de carga.



El "QE2" mientras es adaptado en los muelles de Southamton para su nueva mision de transporte de tropas.



Pérdidas y daños en buques y aeronaves de la Armada Inglesa en las Operaciones del Atlántico Sur.

Fecha	Unidad	Daños
2 Mayo	Arrow (F 173)	Dañado por ataque aéreo
4 Mayo	Sheffield (D 80)	Impacto de "Exocet" con incendio. Fué hundido el 10 de Mayo con cargas explosivas.
12 Mayo	Glasgow (D 88)	Daños leves por ataque aéreo
20 Mayo	Antrim (D 18)	Daños por ataque aéreo
20 Mayo	Argonaut (F 56)	Daños por ataque aéreo
21 Mayo	Ardent (F 184)	Impacto de bomba y misil. Hundido la noche del 22 de Mayo.
23 Mayo	Antelope (F 170)	Impacto de bomba que no explotó. Hundido el 24 de Mayo al intentar desactivarla.
25 Mayo	Coventry (D 118)	Hundido por ataque aéreo con bombas.
25 Mayo	Broadsword (F 88)	Daños por ataque aéreo
25 Mayo	Atlantic Conveyor	Hundido por impacto de "Exocet"
8 Junio	Plymouth (F 126)	Daños por ataque aéreo
8 Junio	Sir Galahad (L 3005)	Incendiado por ataque aéreo
8 Junio	Sir Tristan (L 3505)	Daños por ataque aéreo
12 Junio	Glamorgan (D 19)	Daños por impacto de "Exocet"
--	6 "Sea Harrier"	Perdidos por diversas causas
--	9 "Sea King"	Perdidos por diversas causas



## DESTROYERS

## 2 + 4 "BROADSWORD" CLASS (TYPE 22)

Name	No.	Builders	Laid down	Launched	Commissioned
BROADSWORD	F 88	Yarrow (Shipbuilders) Ltd, Glasgow	7 Feb 1975	12 May 1976	3 May 1979
BATTLEAXE	F 89	Yarrow (Shipbuilders) Ltd, Glasgow	4 Feb 1976	12 May 1977	28 Mar 1980
BRILLIANT	F 90	Yarrow (Shipbuilders) Ltd, Glasgow	25 Mar 1977	15 Dec 1978	1981
BRAZEN	F 91	Yarrow (Shipbuilders) Ltd, Glasgow	18 Aug 1978	4 Mar 1980	1982
BOXER	F 92	Yarrow (Shipbuilders) Ltd, Glasgow	1 Nov 1979	—	—
BEAVER	F 93	Yarrow (Shipbuilders) Ltd, Glasgow	—	—	—

Displacement, tons: 3 500 standard; 4 000 full load  
 Dimensions, feet (metres): 410 wl; 430 oa × 48.5 × 19.9  
 (125; 131.2 × 14.8 × 6) (first four)  
 471 oa × 48.5 × 19.9  
 (143.6 × 14.8 × 6) (Boxer onwards)

Aircraft: 2 Lynx Mk 2 helicopters with ASM and A/S torpedoes

Missiles: SSM; 4 Exocet (single cells);

SAM; Sea Wolf (two 6-barrelled launchers)

Guns: 2—40 mm/60

A/S weapons: 6 (2 triple) Mk 32 torpedo tubes for Mk 46; helicopter-carried A/S torpedoes

Main engines: COGOG arrangement of 2 Rolls-Royce Olympus gas turbines; 56 000 bhp and 2 Rolls-Royce Tyne gas turbines; 8 500 bhp; 2 shafts; cp propellers

Speed, knots: 30+ (18 on Tynes)

Range, miles: 4 500 at 18 knots (on Tynes)

Complement: 223 (18 officers, 205 ratings)

Originally planned as successors to the "Leander" class, the construction of which ceased with the completion of the scheduled programme of 26 ships. Order for the first of class, *Broadsword*, was placed on 8 February 1974, *Battleaxe* ordered 4 September 1975. Order for *Brilliant* 7 September 1976, *Brazen* on 21 October 1977 and *Boxer* and *Beaver* on 25 April 1979. This class is primarily designed for A/S operations and is capable of acting as OTC and helicopter control ship.

It is reported that nine of this class are planned. *Boxer* and subsequent ships will be an enlarged version of this class, which is already 20 ft longer than the Type 42.

This extension will mean that these so-called "frigates" are of greater length than the "light-cruisers" of sixty years ago and over 100 ft longer than the "Tribal" class of the last war.

Aircraft: Although capable of carrying two helicopters normal complement only one. Helicopters will probably carry Sea Skua air-to-surface missiles.

Cost: *Broadsword* £68.6 million. *Boxer* and *Beaver* £94.5 million each.

Electrical: Four diesel generators = 4 000 kW.

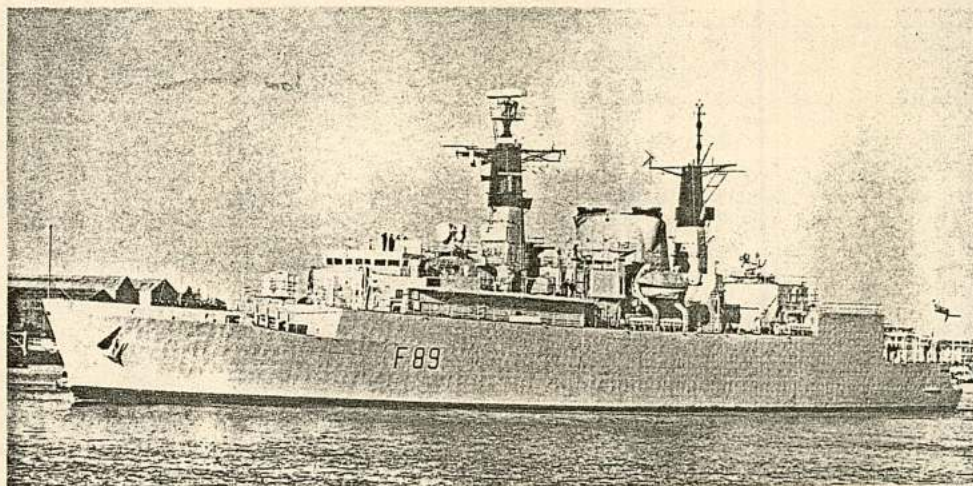
Fire control: Sea Wolf, GWS 25; Exocet, GWS 50.

Radar: Surveillance: One Type 967; one Type 968.

Sea Wolf control: Two Type 910.

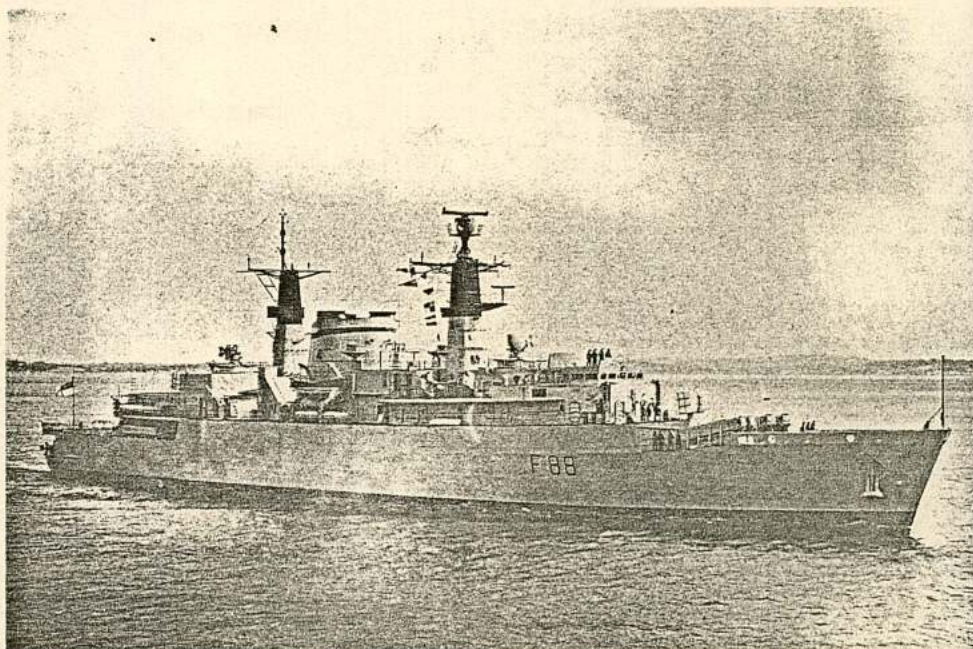
Navigation: One Type 1006.

Sonar: Type 2016 and VDS.



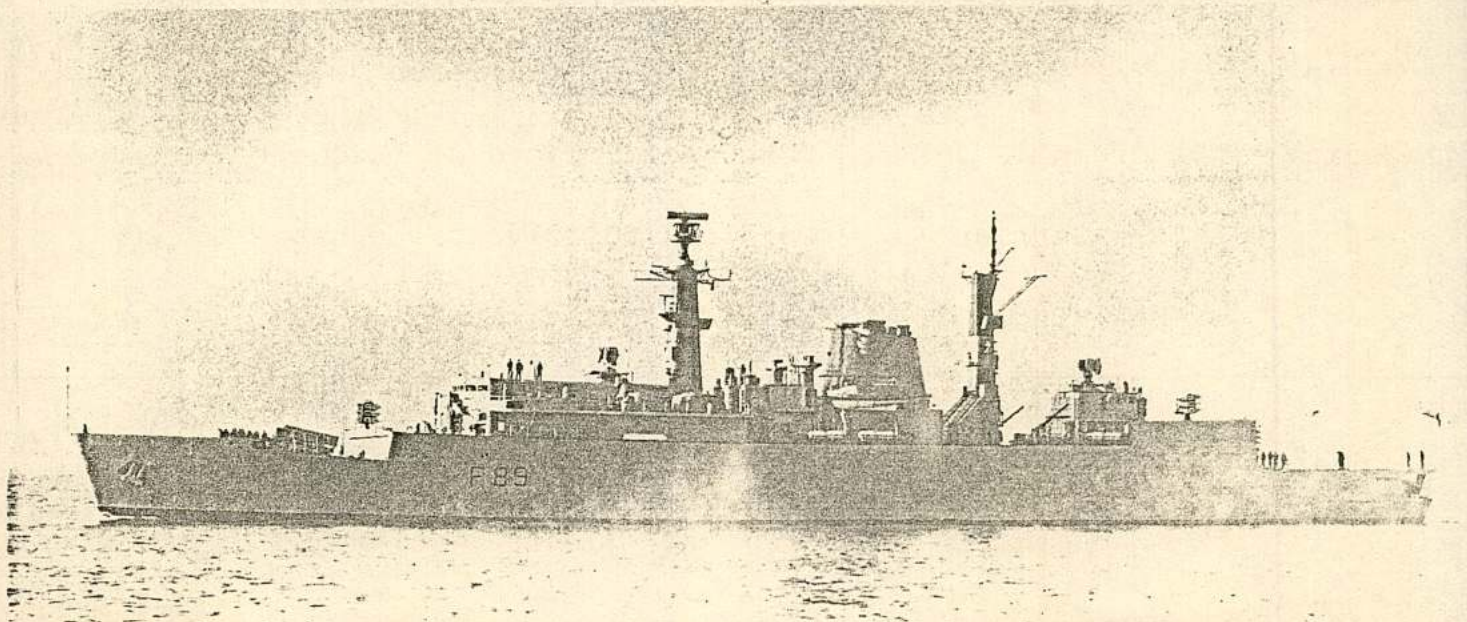
BATTLEAXE

2/1980, Michael D. J. Lennon



BROADSWORD

6/1979, Wright and Logan







Ship	Yard	Builder	Laid down	Launched
SHEPHERD	D 86	Cammell Laird & Co Ltd, Birkenhead	15 Jan 1970	10 June 1971
BIRMINGHAM	D 87	Swan Hunter Ltd, Wallsend-on-Tyne	28 Mar 1972	30 July 1973
NEWCASTLE	D 88	Swan Hunter Ltd, Wallsend-on-Tyne	21 Feb 1973	24 Apr 1975
GLASGOW	D 89	Swan Hunter Ltd, Wallsend-on-Tyne	16 Apr 1974	14 Apr 1976
EXETER	D 90	Vosper Thornycroft Ltd	22 July 1976	25 Apr 1978
SOUTHAMPTON	D 91	Vosper Thornycroft Ltd	21 Oct 1976	29 Jan 1979
NOTTINGHAM	D 92	Cammell Laird & Co Ltd, Birkenhead	6 Feb 1978	18 Feb 1980
LIVERPOOL	D 93	Vickers (Shipbuilding) Ltd, Barrow-in-Furness	5 July 1978	—
MANCHESTER	D 94	Vosper Thornycroft Ltd	19 May 1978	—
GLoucester	D 95	Cammell Laird & Co Ltd, Birkenhead	23 Oct 1979	—
EDINBURGH	D 96	Swan Hunter Ltd, Wallsend-on-Tyne	1980	—
YORK	D 97	Vickers (Shipbuilding) Ltd Barrow-in-Furness (see note)	18 Jan 1980	—
CARDIFF	D 108	Cammell Laird & Co Ltd, Birkenhead	6 Nov 1972	22 Feb 1974
COVENTRY	D 118	—	29 Jan 1973	21 June 1974

Displacement, tons: 3 500 standard; 4 100 full load  
(4 500 *Manchester* onwards)  
Dimensions, feet (metres): 392 wl; 410 oa x 47 x 19 (screws)  
13.9 (keel)  
(119.5; 125 x 14.3 x 5.8; 4.2)  
Dimensions, feet (metres): (*Manchester* onwards):  
434 wl; 463 oa x 49 x 19 (screws)  
(132.3; 141 x 14.9 x 5.8)  
Aircraft: 1 Lynx Mk 2 helicopter  
Missiles: SAM. Est 24 Sea Dart (1 twin launcher) (surface-to-surface capability)  
Guns: 1—4.5 in (115 mm)/55 (Mk 8); 2—20 mm Oerlikon;  
2 saluting  
A/S weapons: Helicopter-launched Mk 44 torpedoes;  
6 A/S torpedo tubes (triples) for Mk 46 (except *Sheffield*)  
Main engines: COGOG; 2 Rolls-Royce Olympus TM3B gas turbines for full power; 56 000 shp; 2 Rolls-Royce Tyne RM1A gas turbines for cruising; 8 500 shp; cp propellers; 2 shafts  
Speed, knots: 29  
Oil fuel, tons: 600  
Range: 4 000 miles at 18 knots  
Complement: 268 (accommodation for 312)

This class is fitted with four sets of stabilisers and twin rudders. The helicopter will carry the Sea Skua (CK 834) air-to-surface weapon for use against lightly defended surface ship targets such as fast patrol boats. Advantages of gas turbine propulsion include ability to reach maximum speed with great rapidity, reduction in space and weight and 25 per cent reduction in technical manpower.

Class: In the same way as it was found necessary to enlarge the "Leander" class a similar but more radical change is being made to this class. From *Manchester* onwards the beam will be increased by 2 ft and the hull length by 42 ft (waterline). Port anchor fitted only in first two ships.

Completion: *Cardiff*, whose completion was delayed by lack of man-power at Vickers Ltd, Barrow, was towed to Swan Hunters, Ltd, Wallsend in February 1976 for completion.

Costs: Building costs—*Sheffield* £23.2 million; *Birmingham* £30.9 million. *Coventry* £37.9 million, 1979 orders £78.5 million each, 1980 orders £85 million each. Running costs (1976 prices, excluding helicopter) £5.2 million per year per ship.

Electrical: Four diesel generators = 4 000 kW.

Electronics: Twin SCOT Skynet satellite communication aerials; ADAWS 4 for coordination of action information. ECM DIF.

Engineering: Considerable automation has allowed a number of machinery spaces to be operated unmanned. Cp propellers by Stone Manganese (Type XX).

Missiles: GWS 30 control.

Orders: *Exeter* 22 January 1976. *Southampton* 17 March 1976. *Nottingham* 1 March 1977 *Liverpool* 27 May 1977. *Manchester* 10 November 1978. *Gloucester* 27 March 1979. *Edinburgh* and *York* 25 April 1979.

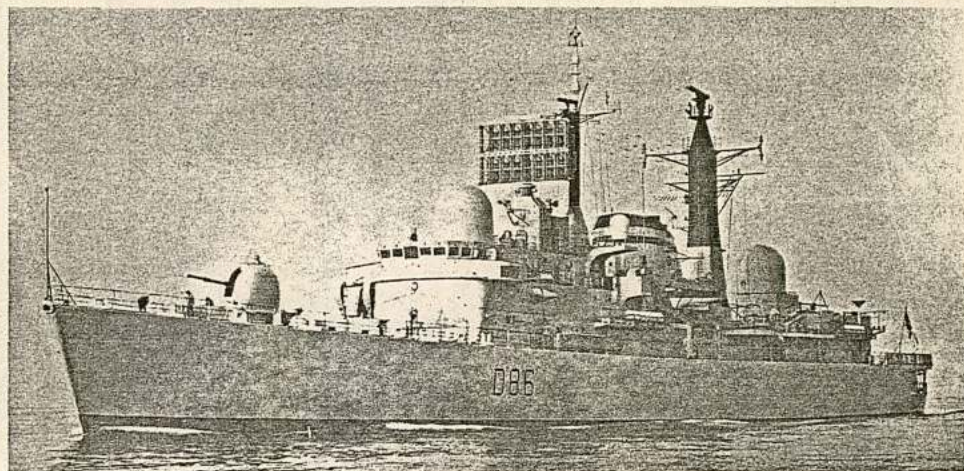
Radar: Search: One Type 985R with double AKE-2 array and IFF. Type 1022 in *Exeter* onwards.  
Surveillance and target indication: One Type 992Q.  
Sea Dart fire control and target: Two Type 909.  
Navigation, HDWS and helicopter control: One Type 1006.

Sonar: Type 184M hull-mounted with fixed dome.  
Type 162 classification.



CARDIFF

9/1979, Wright and Logan



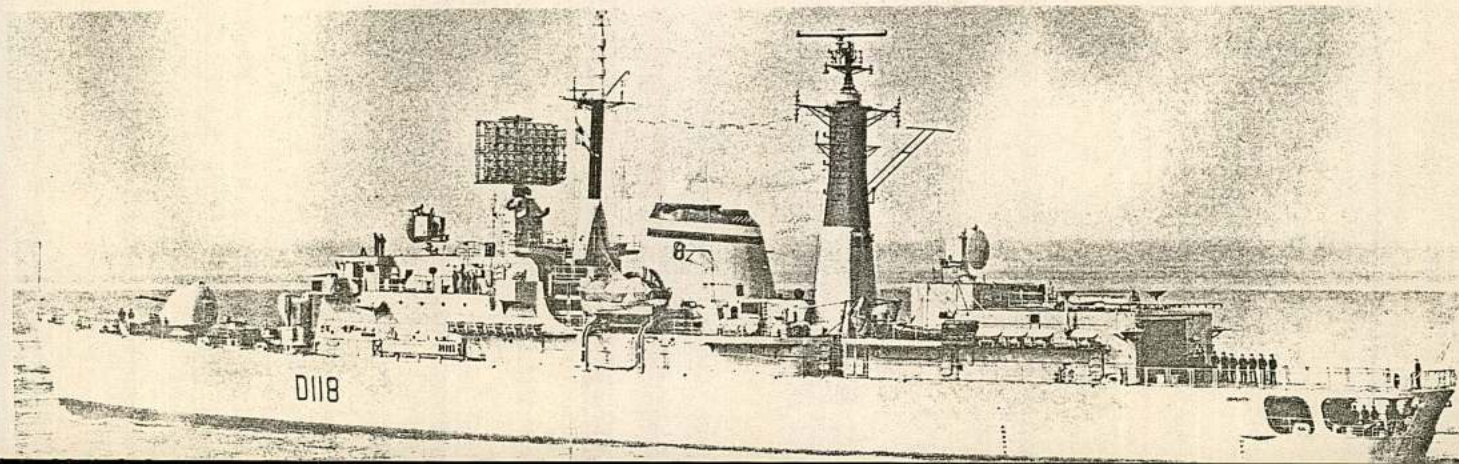
BIRMINGHAM

1/1980, Michael D. J. Lennon



NEWCASTLE

8/1979, J. L. M. van der Burgh





# FRIGATES

Note: A new Type 24 design is under discussion.

## 8 "AMAZON" CLASS (TYPE 21)

Name	No.	Builders	Laid down	Launched	Commissioned
AMAZON	F 169	Vosper Thornycroft Ltd, Woolston	6 Nov 1969	26 Apr 1971	11 May 1974
ANTELOPE	F 170	Vosper Thornycroft Ltd, Woolston	23 Mar 1971	16 Mar 1972	19 July 1975
ACTIVE	F 171	Vosper Thornycroft Ltd, Woolston	23 July 1971	23 Nov 1972	17 June 1977
AMBUSCADE	F 172	Yarrow (Shipbuilders) Ltd, Glasgow	1 Sep 1971	18 Jan 1973	5 Sep 1975
ARROW	F 173	Yarrow (Shipbuilders) Ltd, Glasgow	28 Sep 1972	5 Feb 1974	29 July 1976
ALACRITY	F 174	Yarrow (Shipbuilders) Ltd, Glasgow	5 Mar 1973	18 Sep 1974	2 July 1977
ARDENT	F 184	Yarrow (Shipbuilders) Ltd, Glasgow	26 Feb 1974	9 May 1975	13 Oct 1977
AVENGER	F 185	Yarrow (Shipbuilders) Ltd, Glasgow	30 Oct 1974	20 Nov 1975	15 Apr 1978

Displacement, tons: 2 750 standard; 3 250 full load (see note)  
Dimensions, feet (metres): 360 wl; 384 oa x 41-7 x 19 (screws)  
(109-7; 117 x 12-7 x 5-8)

Aircraft: 1 Lynx Mk 2 helicopter (see note)

Missiles: SSM; 4 Exocet (single cells) (see note);

SAM; Est 20 Seacat (1 quad launcher)

Guns: 1—4-5 in (115 mm)/55 (single Mk 8);

2—20 mm Oerlikon (singles)

A/S weapons: Helicopter launched torpedoes;

6 (2 triple) torpedo tubes for Mk 46 (in later ships)

Main engines: COGOG; 2 Rolls-Royce Olympus TM3B gas turbines; 56 000 bhp; 2 Rolls-Royce Tyne RM1A gas turbines for cruising; 8 500 shp; 2 shafts; cp, 5-bladed propellers

Speed, knots: 30; 18 on Tyne GTs

Range, miles: 4 000 at 17 knots; 1 200 at 30 knots

Complement: 175 (13 officers, and 162 ratings) (accommodation for 192)

A contract was awarded to Vosper Thornycroft, on 27 February 1968 for the design of a patrol frigate to be prepared in full collaboration with Yarrow Ltd. This is the first custom built gas turbine frigate (designed and constructed as such from the keel up, as opposed to conversion) and the first RN warship designed by commercial firms for many years

A/S weapons: Torpedo tubes to be fitted in all ships.

Costs: Building costs between £14-4 million (*Antelope*) and £28-3 million (*Avenger*). Running costs (at 1976 prices, excluding helicopter) £3-3 million per ship per year

Displacement: The inclusion of permanent ballast to improve stability has increased displacement above the designed figures.

Electronics: SCOT satellite communication fitted in several ships, CAAIS fitted.

Helicopter: Provided with Wasp until Lynx is available in *Antelope*, *Active* and *Ambuscade*.

Missiles: Although Sea Wolf was planned for the last four, it was not ready in time so all will mount Seacat. A retro-fitting will take place at second major refit. All fitted with Exocet from *Active* onwards. Remainder to be fitted at first major refit.

Radar: Surveillance and target Indicator: One Type 992Q.

Navigation: One Type 978.

Sea Cat control: Two GWS 24.

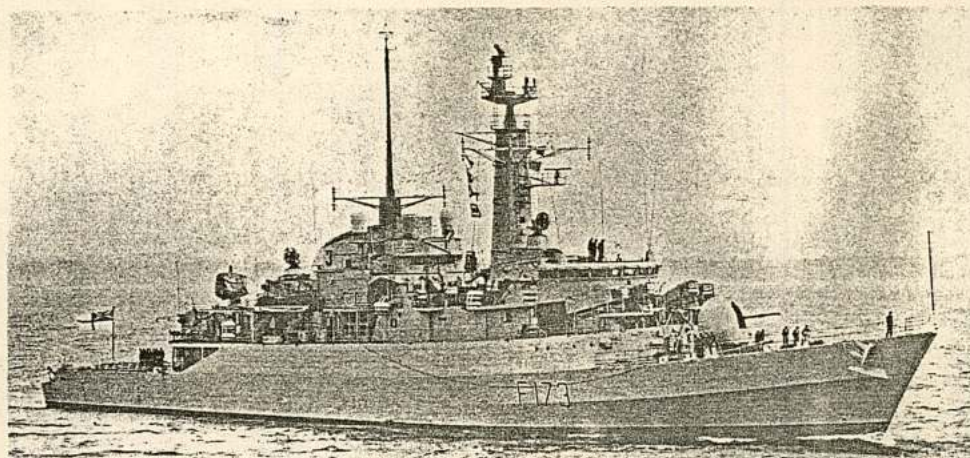
Gun fire control: Orion RTN-10X WSA 4 system.

IFF Interrogator: Cossor Type 1010.

IFF Transponder: Plessey PTR 461.

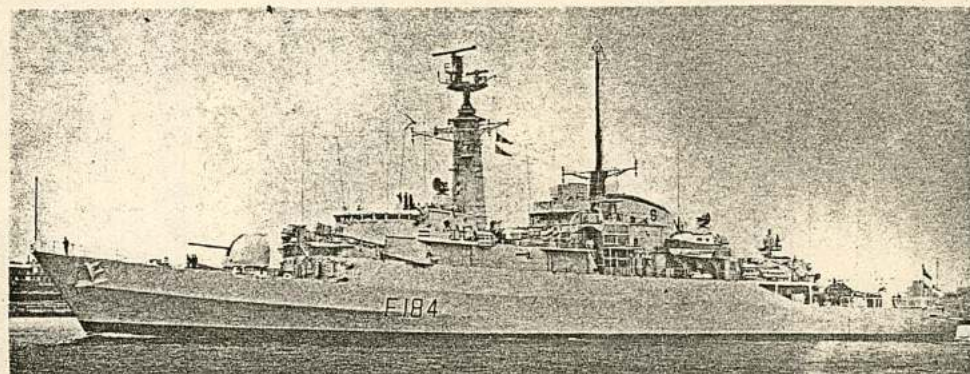
Sonar: Type 184M hull-mounted.

Type 162M classification.



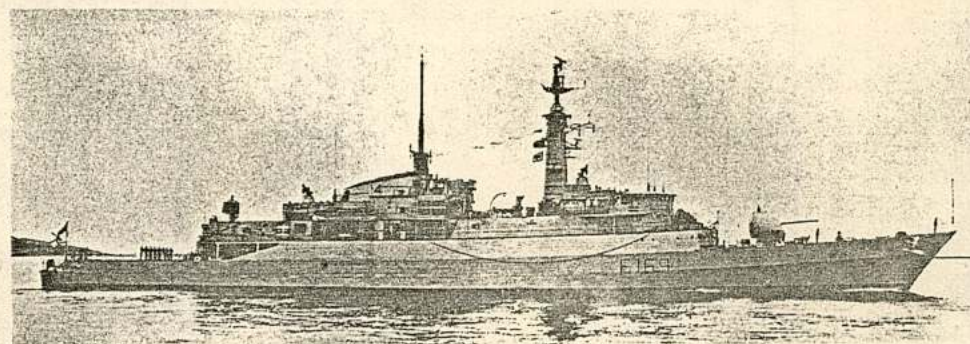
ARROW

5/1979, Michael D. J. Lennon



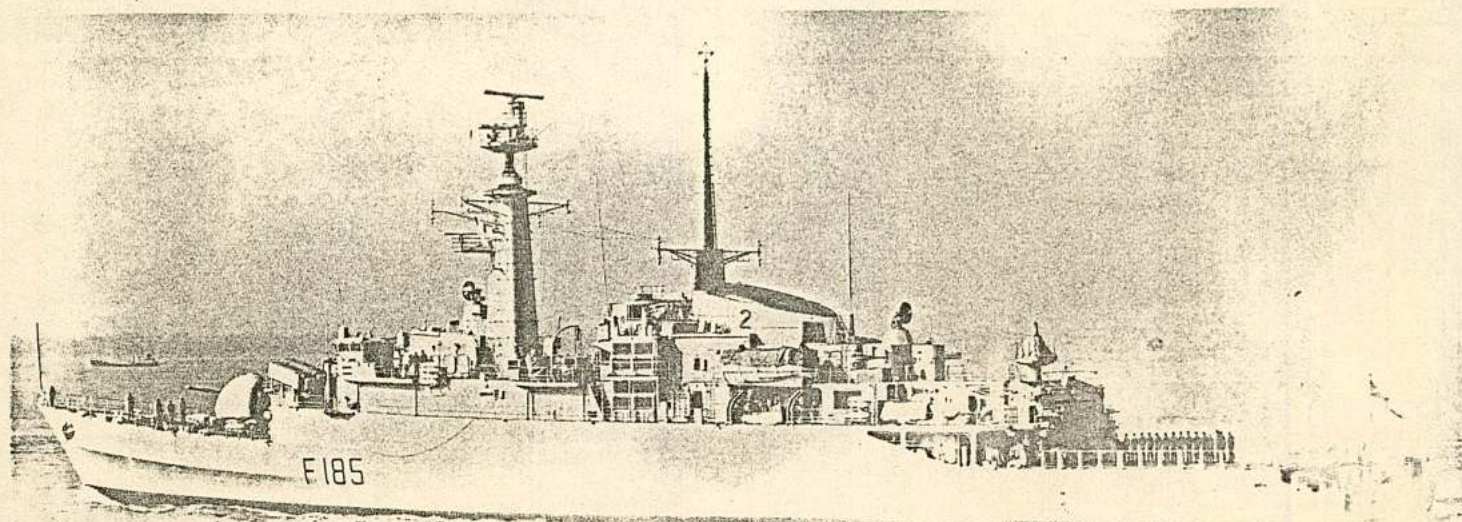
ARDENT

6/1979, Wright and Logan



AMAZON

7/1979, Leo van Ginderen





# 6 COUNTY CLASS



Name	No
KENT**	D 12
LONDON	D 16
ANTRIM	D 18
GLAMORGAN	D 19
FIFE*	D 20
NORFOLK	D 21

\* Refit  
\*\* See "Class" note

Displacement, tons: 5 440 standard; 6 200 full load  
Dimensions, feet (metres): 505 wl, 520.5 oa x 54 x 20.5  
(153.9, 158.7 x 16.5 x 6.3)

Aircraft: 1 Wessex helicopter  
Missiles: SSM; 4 Exocet (single cells) (except *Kent* and *London*) (see *Missiles* note);  
SAM: 36 Seaslug (twin launcher aft);  
Seacat (two quad launchers)  
Guns: 2-4.5 in (115 mm)/45 (twin Mk 6) (4-4.5 in *London*)  
Main engines: COSAG; 2 sets geared steam turbines,  
30 000 shp; 4 gas turbines, 30 000 shp; 2 shafts  
Boilers: 2 Babcock & Wilcox  
Speed, knots: 30  
Complement: 471 (33 officers and 438 men)

*Fife*, *Glamorgan*, *Antrim* and *Norfolk*, have the more powerful Seaslug II systems. All fitted with stabilisers and are fully air-conditioned. Original cost varied from £13.8 million (*Hampshire*) to £16.8 million (*Antrim*). Officially rated as "destroyers".

**Appearance:** *London* has mainmast stepped further aft than remainder. The last four of the class have distinctive tubular foremast and twin AKE radar aerial.

**Class:** On completion of a major rescue operation in Dominica after a hurricane in September 1979 *Fife* paid off to become alongside training ship in Portsmouth. In July 1980 *Kent* will take over this duty which will probably be the end of her active life. *Fife* then to refit.

**Costs:** Running costs (at 1976 prices, excluding helicopter) £4.9 million per ship.

**Disposal:** As a result of the Defence Review *Hampshire* was paid off in April 1976—at least seven years before she might have been expected on the disposal list. *Devonshire* paid off for de-storing on 30 July 1978 and to disposal list 13 September 1978 and it is possible that in about 1981 *London* may be deleted.

**Electrical:** Two 1 000 kW turbo-alternators and three gas turbines alternators total 3 750 kW, at 440 V AC SCOT fitted in *London*.

**Engineering:** These were the first ships of their size to have COSAG (combined steam and gas turbine machinery). Boilers work at a pressure of 700 psi and a temperature of 950°F. The steam and gas turbines are geared to the same shaft. Each shaft set consists of a high pressure and low pressure steam turbine of 15 000 shp combined output plus two G.6 gas turbines each of 7 500 shp.

**Gunnery:** The 4.5 in guns are radar controlled fully automatic dual-purpose. The 20 mm guns were added for picket duties in South-east Asia, but have been retained for general close range duties.

**Missiles:** Four Exocet fitted in *Norfolk*, *Antrim*, *Glamorgan* and *Fife*. No reloads carried.  
Seaslug Mk 2 except in *London* with Mk 1.

**Radar:** Air search: One type 965 (double AKE-2 array in *Norfolk*, *Glamorgan*, *Antrim* and *Fife*—remainder single AKE-1).  
Surveillance: One Type 992 Q.  
Height finder: One Type 278.  
Seaslug fire control: One Type 901.  
Gunnery fire control: MRS 3 (forward) with Type 903.  
Seacat fire control: GWS 22 with Type 904.  
Navigation: One Type 978 or 1006.

**Sonar:** Type 184.

Builder	Launched	Commissioned
Swan, Hunter & Wigham, Belfast	Mar 1960	27 Sep 1961
Fairfield S.B. & Eng Co Ltd, Govan	26 Feb 1960	7 Dec 1961
Vickers (Shipbuilding) Ltd, Newcastle upon Tyne	20 Jan 1966	19 Oct 1967
Fairfield S.B. & Eng Co Ltd, Govan	13 Sep 1962	9 July 1964
Swan, Hunter, Wallsend	1 June 1962	9 July 1964
	15 Mar 1966	16 Nov 1967



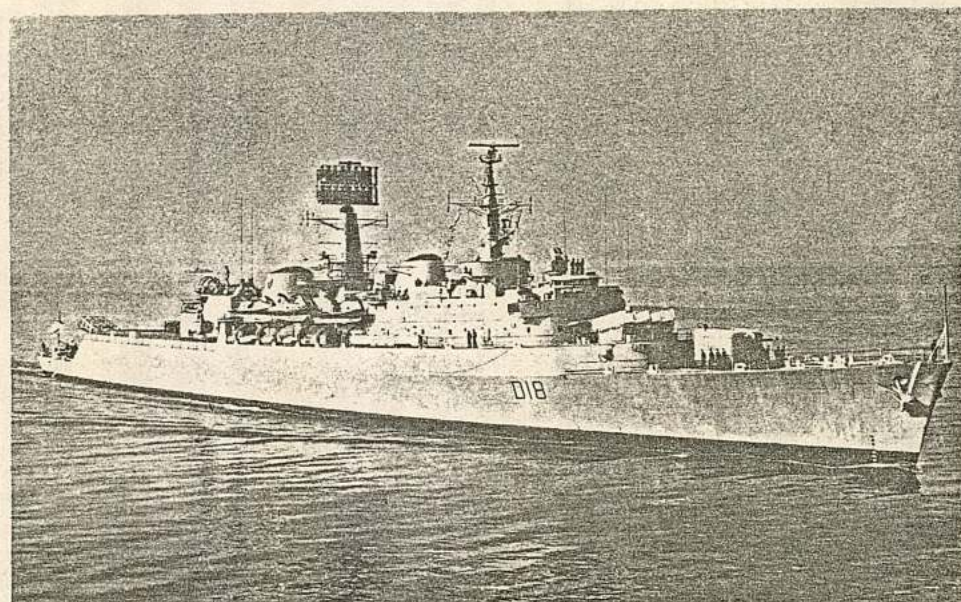
FIFE

7/1979, Leo van Ginderen



LONDON

5/1977, C. and S. Taylor



ANTRIM

7/1979, Leo van Ginderen







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ESCUELA DE GUERRA NAVAL

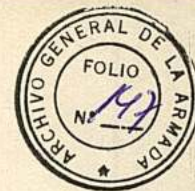
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OTRA BIBLIOGRAFIA









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